ournal

of the AMERICAN PHARMACEUTICAL ASSOCIATION

APRIL
1957
v. 18, #4

Practical Pharmacy Edition

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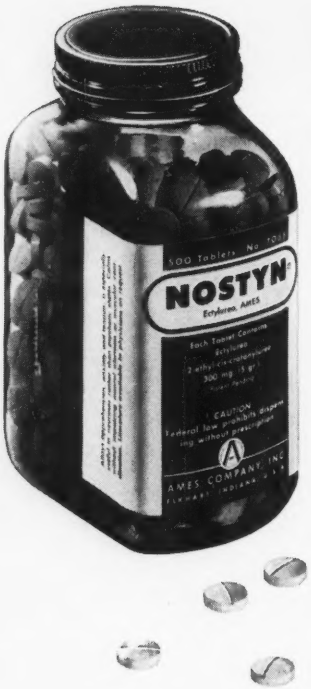

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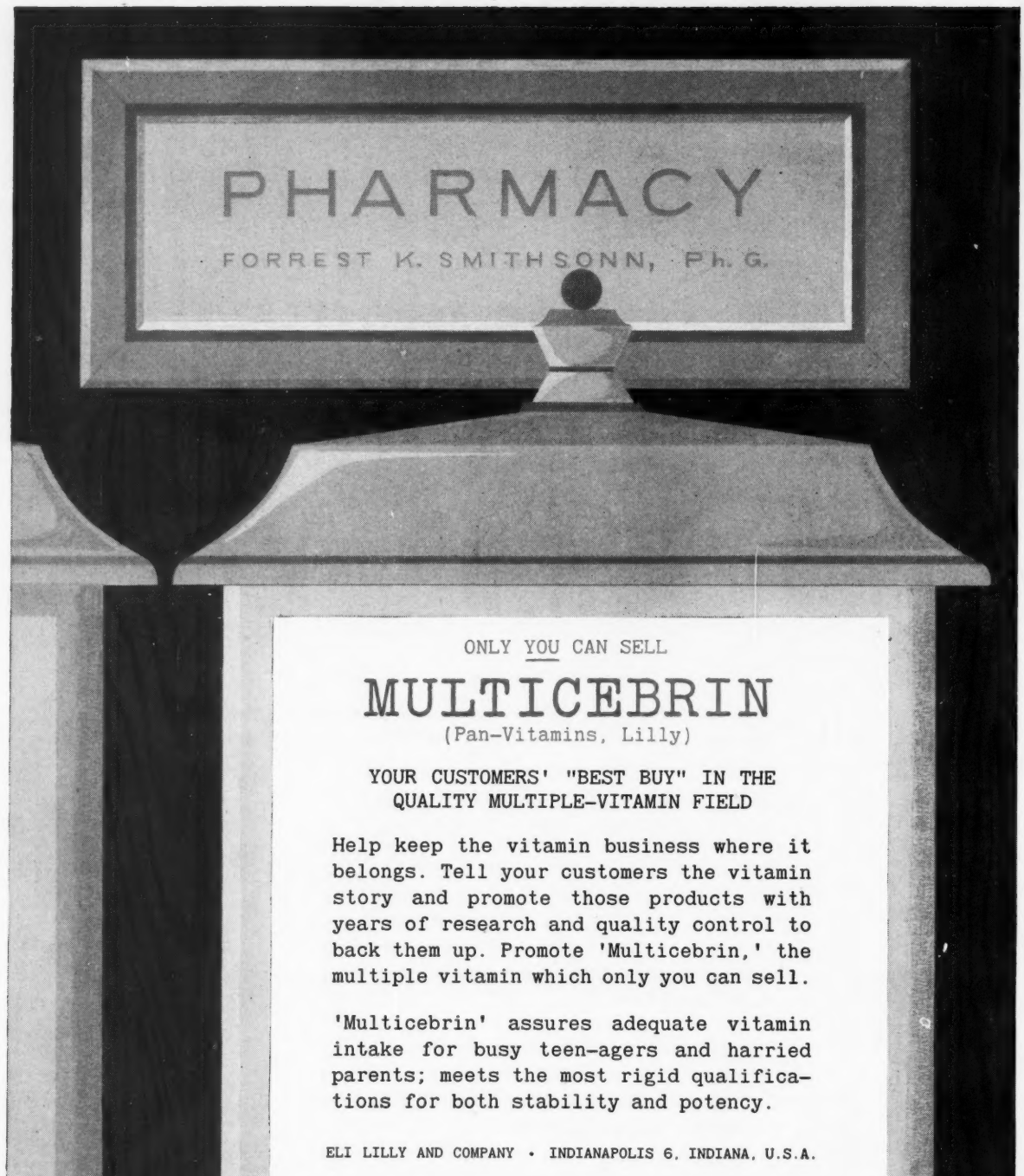
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Journal
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Practical Pharmacy Edition

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This Journal is the official monthly publication of the AMERICAN PHARMACEUTICAL ASSOCIATION, dedicated to the elevation and unification of the profession of pharmacy through communication of authoritative scientific, professional, and cultural information. It is devoted to the education of pharmaceutical practitioners, and it functions as the professional voice of pharmacy, which is directed to all members of the profession of pharmacy in education, government, industry, and professional practice.

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WASHINGTON VIEWS

Dr. Leroy E. Burney, Surgeon General of the U. S. Public Health Service, urges communities where polio vaccine is in short supply to limit vaccinations to young people under 20 and to pregnant women until manufacturers catch up with the demand. The unexpected shortage was caused by skyrocketing public demand brought about by appeals of the A.M.A., A.Ph.A., and others after manufacturers had cut back production of the perishable vaccine (shelf life, 6 months), which requires a long manufacturing process (140 days), when public apathy in using it developed.

According to the Bureau of Narcotics, there are between 50,000 and 60,000 drug addicts in the United States. During the calendar years 1953 to 1956, a total of some 35,000 addicts was reported.

Vigorous protests are being voiced against H. R. 3516, which would authorize Walter Reed Army Institute of Research to confer M.S. and D.Sc. degrees in medicine and allied health sciences and the Judge Advocate General's School at Charlottesville, Va. to confer advance law degrees. Dr. Nathan Pusey, President of Harvard, says such degrees would be cheapened if granted by institutions engaged only part time in education. Spokesmen for the Association of American Medical Colleges and the American Council on Education testified at hearings that universities, not Government, should grant degrees.

The American Heart Association reports that diseases of the heart and blood vessels, America's leading cause of death, currently take more than 800,000 lives each year.

A proposed $10,000,000 budget increase for the International Educational Exchange program will be used in Africa, the Middle East, Asia, and Latin America.

Citizens living in cities are safer from atomic fallout, except from a direct hit, than those living in the country, according to a recent study of pollen and mold fallout over Milwaukee.

Warning of an enemy attack will be spread within one minute to about 200 civil defense warning points from coast to coast when a new warning network is placed in operation on May 1 by the Federal Civil Defense Administration; however, widespread use of electrical and electronic equipment creates interferences which threaten the defense system, according to Gen. E. F. Cook, Commanding Officer of the Signal Corps Engineering Laboratories, Ft. Monmouth, N. J.

During 1956, more than a dozen pharmacists obtained Small Business Administration loans for modernization, expansion, or other legitimate business reasons. Pharmacists should investigate the possibilities with their bankers.

Governmental payrolls for nearly 8,000,000 civilian public employees total more than $2,500,000 a month.

LAST MINUTE NEWS

In a case recently instituted against a supermarket by the New Jersey Board of Pharmacy, Bergen County (N. J.) Judge Lynn has ruled that 14 drugs, which the New Jersey Board of Pharmacy classified as not exempt for general sale, come within the exemption clause of the New Jersey Pharmacy Act and may be sold without the supervision of a registered pharmacist (see page 211).

The World Health Organization of the United Nations has called for national control of tranquilizing drugs since all drugs used for their sedative effects to promote sleep or relieve anxiety might be habit-forming and their excessive use might result in the development of true addiction. But, U. S. Narcotics Commissioner Harry J. Anslinger has told a Congressional Subcommittee that there is no evidence that the tranquilizer drugs are habit-forming or addictive, and Dr. Robert H. Felix, Director of the National Institute of Mental Health says: "....chlorpromazine (Thorazine) and reserpine are not addictive."

More young children are killed each year by accidental poisoning than by polio, scarlet fever, and diphtheria combined. American medicine chests contain numerous materials poisonous for children (aspirin, laxatives, and sedatives) which account for the tragic deaths of many children every year.

Fatalities from radiation exposure may be significantly reduced with a new drug (quinoxaline 1,4-di-N-oxide) being studied by Dr. Thomas Haley and associates of U.C.L.A.'s Atomic Energy Project.

Many more women are dying from heart attacks than 15 years ago, writes Dr. Wilbur A. Thomas in *Nutrition Reviews* for April.

Nearly 13,000 pharmacies, 1 out of every 4, are now utilizing self-service.

Some 7,000 hospitals in the United States with total assets of $12,000,000,000, have an annual payroll of $3,600,000,000 for more than 1,300,000 employees.

Lack of uniform national standards for filters caused the initial temporary failure of polio vaccine, according to the American Standards Association which has voted to set up national standards for filters used in processing biologicals.

An explosion in the vitamin A plant of the Chemical Division of Merck and Company at Rahway, N. J. resulted in the instant death of three employees and injury to several others on March 20.

Dr. Robert H. Hamlin of Brookline, Mass. has been appointed Assistant to the Secretary of Health, Education, and Welfare, Marion B. Folsom. The new Deputy Commissioner of Education is Wayne Otis Reed.

A new antibiotic drug, streptovaricin, will be tested against tuberculosis in 100 patients in 10 Veterans Administration hospitals. The new drug was isolated from a soil fungus collected in Dallas, Tex.

American business men desiring to invest in Turkey have been assured that receipts from their investments will be transferred into U. S. dollars, and they will be compensated by the U. S. Government in U. S. dollars for loss of any part of an investment in an approved project by reason of expropriation or confiscation resulting from the action of a foreign government.

Strong opposition has been registered by the New Jersey Pharmaceutical Association against the Federal Food and Drug Administration's proposal to remove Tuaminoheptane Sulfate Nose Drops and Neomycin Sulfate Troches from the prescription-legend category.

Arrangements have been made for pharmaceutical industry tours in the New York and Philadelphia areas for those attending the Fourth Pan-American Congress of Pharmacy and Biochemistry meeting in Washington, D. C. November 3–9.

Drug and proprietary sales reached the record $5,775,000,000 in 1956, according to the U. S. Department of Commerce.

Special sera developed in chickens provide a fast and sensitive method for determining the kind and quantity of proteins in human blood as the result of researches conducted at the Detroit Institute for Cancer Research and the Henry Ford Hospital.

The Inspector General of Pharmacy of Peru has increased the registration fee for foreign pharmaceutical products from 250 soles ($13) to 500 soles ($26), and now requires that the retail price to the public appear on each container, in an effort to restrict imports of nonessential specialties in order to save foreign exchange and favor the development of the domestic pharmaceutical industry.

Licenses to practice were abridged to remove obstetrics and minor surgery from the vocational prerogatives of some 50 Utah naturopaths, who are appealing to the Supreme Court. A Maryland naturopath is attempting to have that state's Medical Practice Act declared unconstitutional on the grounds it violates anti-trust laws.

The Supreme Court has been asked to review a Cleveland case in which two men were convicted of offering to sell medical diplomas for $150 to chiropractors.

According to Dr. Paul C. Olsen, Director of Marketing Research, Topics Publishing Company, the 1956 average of 10,855 prescriptions per store for the independents was 1,061 more prescriptions than the year 1955. For chains of 4 or more stores each, the averages for 1956 and 1955 were 11,760 and 10,857, respectively.

The administration's proposal to extend minimum wage protection under the Fair Labor Standards Act would bring within the protection of a minimum wage ($1 an hour) some 2,500,000 workers.

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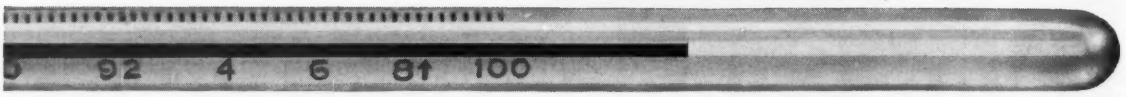

Mr. Druggist?

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Enzyme urine-sugar tests are sensitive and specific for glucose—excellent "yes" or "no" tests, but undependable for quantitation. A report* on 4,020 tests in a recent issue of the Journal of the American Medical Association shows that enzymatic urine-sugar testing "...as a quantitative procedure is unsatisfactory and can lead to serious error in the interpretation of a patient's clinical condition."*

Failure to recognize this limitation of enzyme tests may result in incorrect insulin dosage. This can lead to diabetic complications.

*Leonards, J. R.: Evaluation of Enzyme Tests For Urinary Glucose, J.A.M.A. **163**:260 (Jan. 26) 1957.

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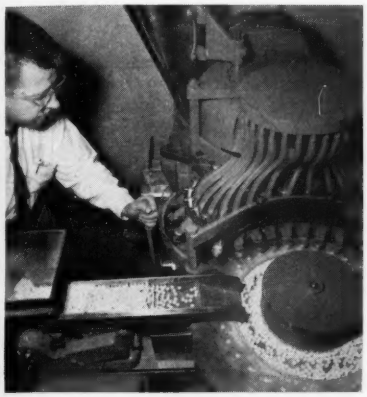
NEWS and NOTES

ASSOCIATIONS

American Association of Colleges of Pharmacy holds the 9th annual Teachers' Seminar July 14–19 on the University of Washington campus in Seattle. Sponsored by the American Foundation for Pharmaceutical Education, the program will be built around a daily subject to be considered in formal papers, discussion sessions, workshops, and demonstrations. Pharmacology—an inventory of its current applications and prospects, its mechanisms and methods, graduate training and research—will share the spotlight with an interpretation of drug effects on the heart and current concepts in psychopharmacology.



UNIVERSITY OF MICHIGAN's Pharmacy Prof. Albert M. Mattocks, Jr., tests compression tablet coating machine developed by Colton which uses vacuum suction tubes to pick up pill cores for coating, thus insuring an active ingredient in every pill.

American Chemical Society's forthcoming national meeting, 131st in the 81-year history of the Society, will consider among many other subjects a new class of pain-relieving drugs in the week beginning April 7.

American College of Apothecaries announces the establishment of a Texas Chapter with *William R. Meyers* as President, *George A. Raven*, Vice President—both of Dallas; and *Henry M. Burlage*, Dean of the University of Texas College of Pharmacy, as Secretary-Treasurer.

American Pharmaceutical Manufacturers' Association—A meeting of the Combined Pharmaceutical Contact Committee was held at the Washington Hotel, Washington, D.C. on March 26–27. Standards for tablets, rubber closures, and tolerances for certified colors were discussed.

California Board of Pharmacy—*Max Weisberg*, Pharmaceutical Director of the Owl Drug Company, Los Angeles, has become President of the Board.

Chicago Retail Drug Association's Diabetic Committee has organized a public check-up evening March 20 at a local high school including free personal consultation, films, and literature.

New York Academy of Sciences will hold a conference on the relationship between animal diseases and human health May 2–4 in cooperation with the U.S. Public Health Service. A 10 year progress report on zoonoses will be made.

Portugal—10th International Hospital Congress, organized by the International Hospital Federation, will be held in Lisbon, Portugal, June 3–7. Headquarters will be at the Hospital de Santa Maria, one of the most modern teaching hospitals in Europe. The program, built on the theme "International Cooperation for Hospital Development—The Hospital of the Future," will consist of lectures and study sessions with simultaneous translation provided in English, French, and Portuguese. Participation is open to all regardless of membership in the IHF. Address: *Captain J. E. Stone, C.B.E., M.C., F.S.A.A.*, Honorary Secretary and Treasurer, International Hospital Federation, 10 Old Jewry, London, E.C. 2, England.

BUTLER UNIVERSITY—Dean and Mrs. Karl L. Kaufman (center front) accompanied Butler pharmacy students to A.Ph.A. Headquarters on their way to Lederle Laboratories. Among the A.Ph.A. staff present is Dr. Robert P. Fischelis (right of Dean Kaufman), A.Ph.A. Secretary and General Manager.

COLLEGES

Brooklyn College of Pharmacy will be host to the 4th annual Public Health Forum organized by its Alumni Association under the chairmanship of *Irving Rubin*, Editor of *American Druggist*. To be held in 3 sessions, March 26, April 2, and April 9, the Forum will concentrate on how to strengthen the neighborhood pharmacy in, as Mr. Rubin puts it, "these times of supermarket competition, discount selling, mail order houses, and other changes brought about by the retailing revolution that has been sweeping the United States since the end of World War II."

Columbia University's 8th annual Industrial Research Conference will be held, as heretofore, at Arden House in Harriman, N.Y., June 2–7. Centered in previous years on the problems and demands of research managers, the Conference will this year begin an examination into the total process of research management—how it differs from and resembles other management. Closing date for enrollment is May 1.

UNIVERSITY OF HOUSTON Chancellor Lt. Gen. A. D. Bruce (2nd from l.) receives contributions from S. L. Black (l.), Pres., Black's Pharmacy; Sam Rinando (2nd from r.), Prop., Alamo Pharmacy; and Jerry Fulenwider (r.), Pres., Houston Drug Travelers, in a $71,000 drive for the College.

Detroit Institute of Technology pharmacy seniors were fed and instructed at the annual lunch arranged by pharmacy juniors at which *David Moss*, Past President of the Michigan Board of Pharmacy, discussed and answered questions on how applicants are evaluated.

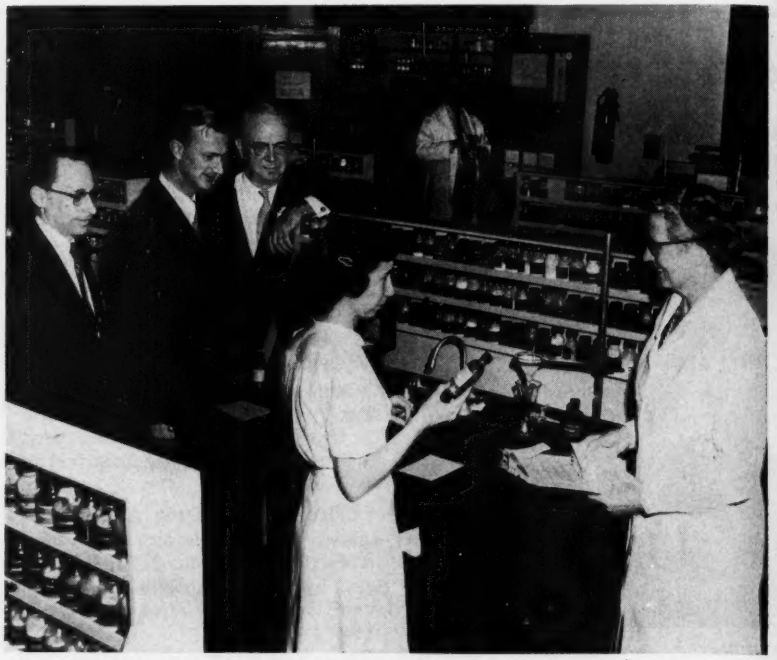
George Washington University's 7th annual Career Conference held April 3 heard pharmacist-*Senator Hubert H. Humphrey* of Minnesota deliver the keynote address. Senator Humphrey, a Phi Beta Kappa and

former professor, graduated from the Denver College of Pharmacy and the University of Minnesota and holds an honorary doctorate from the Rhode Island College of Pharmacy and Allied Sciences.

Howard University pharmacy students left Washington, D.C., to visit Parke Davis headquarters at Detroit for two days in early March.

New England College of Pharmacy is midway in a $500,000 drive for funds to be used in expanding and improving its facilities. "The existing shortage of pharmacists in New England is an ever-increasing threat to public health," said Trustee *John W. Spellman, Jr.*

Philadelphia College of Pharmacy and Science is cooperating with the Philadelphia Hospital Pharmacists Association in offering three special summer courses: June 17–28, radioisotope techniques; July 8–19, instrumental methods of analysis; June 17–28 and again July 8–19, preparation of parenteral products. . . . Founders' Day honors went to *Harry C. Zeisig*, Secretary of the Delaware Board of Pharmacy, who received an honorary Master in Pharmacy degree for his organizational work in pharmacy, and *C. Elbert Hoffman*, Philadelphia pharmacy owner.



AUSTRALIA's Frank H. Bedford (2nd from left), pharmaceutical chemist and teacher at Melbourne College of Pharmacy, is flanked on the left by Thomas H. F. Smith, A.Ph.A. Student Branch President, and on the right by Dr. Ivor Griffith, looking on at student Mrs. Rose Ellen Holl and Professor Elsa Ehrenstein (r.) at the Philadelphia College of Pharmacy and Science, where Mr. Bedford spent some months studying U.S. courses in pharmacy administration and prescription compounding. He is currently touring U.S. and Canadian pharmacy colleges and was a recent visitor at A.Ph.A. Headquarters.

Rutgers University—Believed to be the first instance of classroom collaboration, the New Jersey Pharmaceutical Association presented three lectures in the College's dispensing pharmacy course devoted to orienting the senior student in practical public relations between pharmacist and customer, pharmacist and fellow pharmacist, and the allied professions.

St. John's University—Ground has been broken for the Science-Pharmacy Hall located on the Long Island Division campus. The Hall will accommodate 3,000 students in 30 laboratories and its completion in September, 1958, will mark the relocation of the College of Pharmacy from the Brooklyn campus.

University of California pharmacy graduate of 1956, *Lieut. Roy L. Koss*, writes that he has just finished officers' orientation at the Army Medical Service School at Fort Sam Houston and has been assigned to France.

University of Texas Pharmacy Extension Service has been organizing a series of Pharmacy Management Conferences in cooperation with local pharmaceutical associations. *Wynne Collier*, President of the Texas Pharmaceutical Association, has spoken on professional management, *Dr. J. E. Davis* on antidotes for new and old drugs, and *Mrs. Pauline Burbrink* on the art of getting along. . . . *Dean Henry M. Burlage* has received the Mortar and Pestle Award made by the Rexall Drug Company.

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GOVERNMENT

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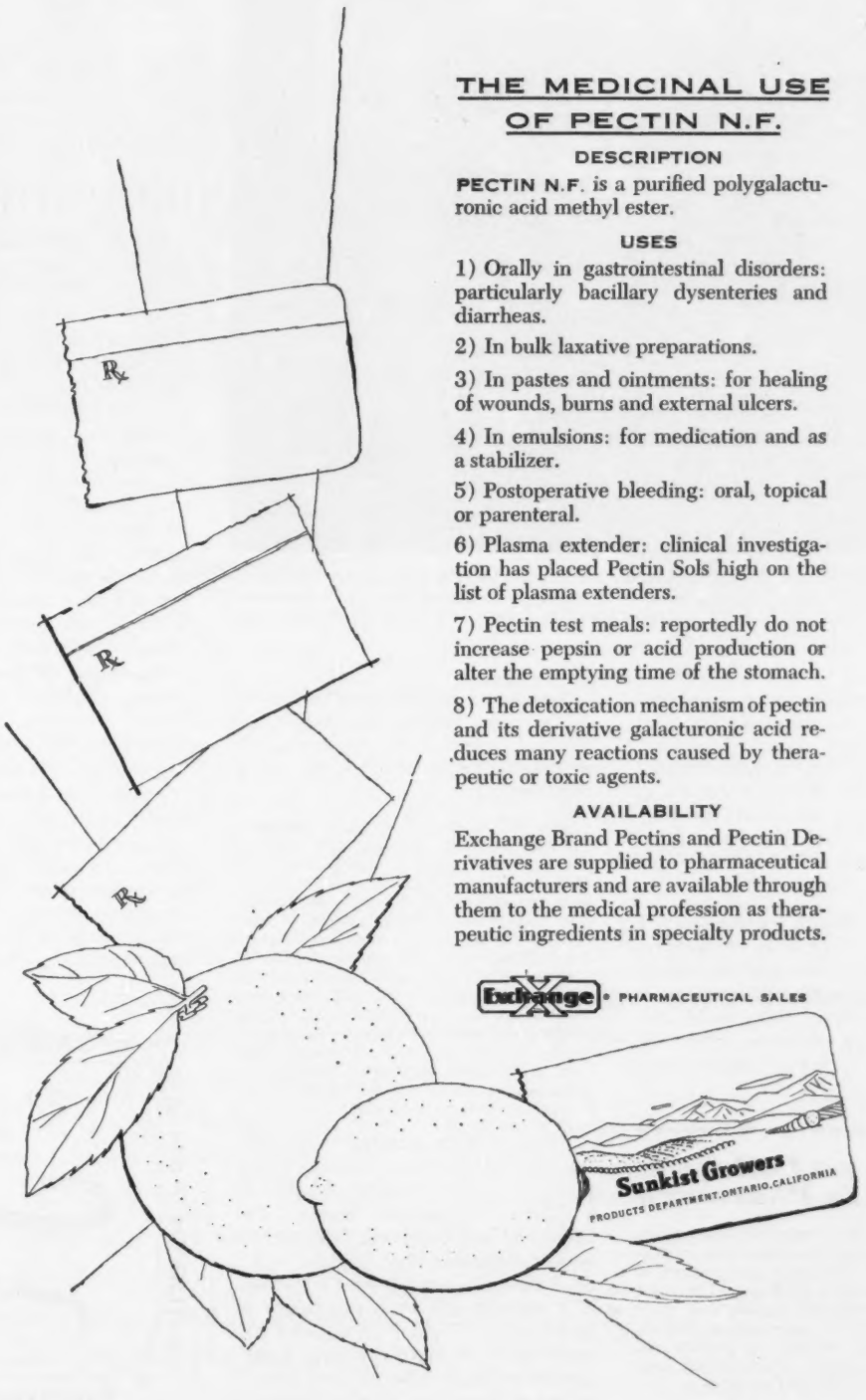
National Bureau of Standards announces the 42nd National Conference



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USES

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2) In bulk laxative preparations.

3) In pastes and ointments: for healing of wounds, burns and external ulcers.

4) In emulsions: for medication and as a stabilizer.

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8) The detoxication mechanism of pectin and its derivative galacturonic acid reduces many reactions caused by therapeutic or toxic agents.

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NEW YORK Pharmaceutical Society's Secretary Nicholas S. Gesoalde (r.) watches Thomas A. Rocchio, Past President of the Society, demonstrate an antique citrus oil extractor at the Pharmaceutical Society's exhibit of old-time pharmacy equipment loaned by Lederle Laboratories for the recent convention of the Medical Society of New York.

on Weights and Measures to be held June 3–7 in Washington, D.C., at the Sheraton-Park Hotel. Topics under discussion will include current activities of the NBS; a survey of laws, regulations, personnel, and long-range state planning in the U.S.; administration in England and Canada.

U.S. Public Health Service's new 3 year training program to enable professional health personnel to secure graduate or specialized training in public health has to date made over 300 traineeships available. Plans for the 1957–58 academic year are now being made.

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Veterans Administration (VA)—*Dr. William W. Fellows,* Assistant Chief Medical Director for Planning, has sent the following letter to VA medical personnel:

The 1957 Convention of the AMERICAN PHARMACEUTICAL ASSOCIATION will be held in New York, N.Y., April 28 through May 3. Many VA pharmacists are members and officers of the national association and affiliated organizations. I have been extremely pleased that the Veterans Administration is well represented by so many of its pharmacists in activities of this professional group at the local, state, and national level. It is requested that those pharmacists who are interested in attending the convention and can be spared from their usual duties be granted official leave to attend the meeting at no expense to the Government other than salary.

Veterans Administration is accepting applications for a 22-month hospital pharmacy residency leading to a Master of Science degree. The current examination will fill positions in Los Angeles, Calif., Buffalo, N.Y., St. Louis, Mo., and Iowa City, Iowa. The resident will receive a salary of $2.18 an hour and be employed approximately 28 hours a week. Applicants must have a Bachelor of Science degree in pharmacy from an approved school and be currently registered pharmacists, although students may apply prior to graduation and to obtaining registration, with proof of such compliance required by August 1 for residency beginning September 1. Applicants interested in a residency beginning September 1 must file by May 1; those interested in a February 1 residency should file before October 1. Apply to The Executive Secretary, Central Board of U.S. Civil Service Examiners, Veterans Administration, Washington 25, D.C.

INDUSTRY

Abbott Laboratories—*Frederick J. Kirchmeyer,* head of pharmaceutical research at Abbott since 1946, has been appointed New Products Director.

Baxter Laboratories—*Gilbert J. Straub,* formerly Manager of the New Products Division for Warner-Chilcott, has been appointed Coordinator of New Product Marketing for Baxter.

Bulman Corporation has taken the first step in building additional factory space by acquiring property adjoining its present plant in Grand Rapids, Mich. The corporation, which recently increased production capacity by 50%, is accounted one of the nation's largest manufacturers of store, including pharmacy, equipment.

Burroughs Wellcome—*Howard B. Fonda,* Senior Vice President, was elected President of the American Foundation for Pharmaceutical Education at its 15th annual meeting.

Johnson & Johnson's $75,000 Annual Youth Scholarship Fund contest is open to adults as well as youngsters. An adult winner of the best 50-word essay on "A good education is important because . . ." would have the privilege of designating a person under 18 for the scholarship.

The above symbol will be seen more and more frequently by pharmacists as the 4th Pan-American Congress of Pharmacy and Biochemistry approaches the November 3–9 meeting set for Washington, D.C. This is the first time the Congress has met in the United States.

"Well, then, how about *en brochette?*"

And—while we're stretching a point—what about all those folks who choose one kind of dish, stick with it, eat it all day, every day ... only to discover (to their chagrin) that they've shortchanged themselves nutritionally? Especially in the important B-complex vitamins. So, for deficiencies brought about by unsound mealtime habits or because of illness, senility, stress, or postoperative states, remember SUR-BEX with C. As a dietary supplement: 1 or 2 tablets daily. For stress, or postoperative convalescence: 2 or more tablets daily.

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Ascorbic Acid	*150 mg.*
Desiccated Liver, N.F.	*300 mg.*
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Lilly's Employee Activities Group has organized an 11,000 mile 3 week tour of 7 European countries for next fall. Cost, including all necessities, sight-seeing, tips, etc., will be $871 a person, a saving of $500 over the usual charges.

McKesson & Robbins—Modernization Specialist *William Buell* addressed the Holyoke Druggist Association (Mass.) on "Current Trends in *Your* Drug Business."

Merck & Co., Inc., announces it is starting immediately to use the A-B-X-labeling for narcotic preparations as requested of the pharmaceutical industry by the Federal Bureau of Narcotics (see THIS JOURNAL, March, 1957, issue, page 164).

Norwich—*Joseph M. Quinn* has just been named Editor of Norwich's house publications.

Parke, Davis & Company has hundreds of its sales representatives collecting soil samples from all over the world for processing in P-D laboratories to determine the scientific usefulness of their microorganisms. Chloromycetin was developed in this way from soil that came from South America. The best soil-sample-collector-salesman so far in the latest project is in Alaska.

Pfizer grants made last year for individual financial aid, fellowships, and scientific research projects totaled $1,000,000, with approximately one-third going to students, resident physicians, and pharmacy interns.

Schering's *Ralph Najarian*, Advertising Manager, predicted to the Pharmaceutical Advertising Club recently that physicians will increasingly come to consider pharmaceutical promotion as a form of continuing education to keep them abreast of trends in modern drug therapy.

Wyeth Laboratories—Philadelphia's observance of 1957 Printing Week brought award of the Franklin Gold Medal for a series of Bicillin advertisements to Lewis & Gilman, advertising agency for Wyeth. Voted "Best of the Year" in the 5th annual graphic arts exhibit of Delaware Valley, the advertisements were cited "for excellence of design and craftmanship in an outstanding example of commercial printing." The series appeared in the *Journal of the American Medical Association*.

Sister Mary John to Receive Whitney Award

Sister Mary John, Chief Pharmacist at Mercy Hospital, Toledo, has been chosen to receive the 1957 H. A. K. Whitney Award. Sister Mary John served as Treasurer of the American Society of Hospital Pharmacists for 3 years during 1943–1946. She has been active in the affairs of the ASHP, of which she is a Charter Member. The Whitney Award has been presented annually by the Michigan Society of Hospital Pharmacists for the past 8 years. The Award will be presented in connection with the annual meeting of the ASHP, which will be held in conjunction with the Convention of the AMERICAN PHARMACEUTICAL ASSOCIATION in New York during the week of April 29.

Sister Mary John has been particularly active in the hospital pharmacy internship training programs and has played an important role in establishing pharmacy's supervision over the central supply department. She has presented a number of papers at various hospital pharmacy meetings.

Sister Mary John

A graduate of St. Vincent's Hospital School of Nursing in Toledo, Sister Mary John served with the Army Medical Corps in France during World War I and entered the religious Sisters of Mercy in 1919. She has been Chief Pharmacist at Mercy Hospital for 17 years and is one of the most loved members of the Society. The title for her award lecture will be "Hospital Pharmacy—Past, Present, and Future."

Cover

The photograph on the cover is of King's Daughters' Hospital in Staunton, Virginia. This is a non-profit corporation owned and operated by the people of the community and has been serving the city and surrounding areas for 51 years. The present plant, finished in 1951 at a cost of $2,500,000, contains the most up-to-date facilities and equipment. It is a short term general hospital with 117 beds and 20 bassinets. A $500,000 building program to provide additional beds and facilities is expected to begin within the next few months.

There are 35 members on the active medical staff, 19 physicians are on the courtesy staff, and 10 dentists make up the dental staff.

Mr. Paul Flanagan, a graduate of the Medical College of Virginia School of Hospital Administration, is the Administrator and Mr. R. David Anderson, a graduate of the Medical College of Virginia School of Pharmacy and President of the Virginia Society of Hospital Pharmacists, is the Chief Pharmacist.

Hospital Pharmacy Residency Announced

The Orange County General Hospital, Orange, Calif., announces a two-year residency in hospital pharmacy to be conducted under the direction of Chief Pharmacist Wendell T. Hill, Jr. Mr. Hill obtained a Master of Science degree in hospital pharmacy from the University of Southern California and completed a hospital pharmacy residency at the Veterans Administration Center in Los Angeles.

Applications for this residency are now being accepted from pharmacists interested in advancing their training for an attractive career in hospital pharmacy. This progressive hospital, soon to have a 1,200 bed capacity, is offering the two year residency in cooperation with the University of California, where the resident will complete work for the degree Master of Science in Pharmacy.

The candidate must be a graduate of an accredited College of Pharmacy, hold a B.S. degree in Pharmacy, be licensed in the State of California, or be elegible to take the California State Board of Pharmacy examination. The salary is $337 per month the first year, and $355 per month the second year. All interested persons should write the Orange County General Hospital, Orange, Calif., for further information.

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BRANCHES

LOCAL BRANCHES

Baltimore Branch—*John J. Sciarra*, Instructor in Pharmacy at the University of Maryland, spoke on the topic "Medicinal and Pharmaceutical Aerosols" at the Branch meeting on February 21, which was held jointly with the Student Branch of the University of Maryland School of Pharmacy.

Central Utah Branch—A.Ph.A. President *John A. MacCartney* presented the charter to the newly established Branch in Salt Lake City on February 27.

Chicago Branch—On March 6 the Chicago Branch heard a panel discussion by members of the Indianapolis Branch. *Ben A. Smith*, moderator, spoke on "Economics in the Retail Drug Store"; *Allen V. R. Beck* discussed "Hospital Pharmacy and Cooperation with Retail Pharmacy"; *Dean Karl L. Kaufman* treated "Ethics and Interprofessional Relations"; and *Robert Wilson* talked on "Prescription Department Promotion and Advertising." Newly-elected officers for 1957–58 are *Dr. Dwight L. Deardorff*, President; *R. David Allen*, 1st Vice President; *Phillip Ritzlin*, 2nd Vice President; *Milton S. Prizant*, 3rd Vice President; and *Peter Solyom*, Secretary-Treasurer.

City of Washington Branch—At the meeting of February 21, *Allen J. Brands*, Chief Pharmacy Officer of the Division of Indian Health, U.S. Public Health Service, discussed "Pharmacy in Indian Health."

Indianapolis Branch—*Dr. Paul C. Olsen*, Director of Market Research for *Drug Topics*, spoke on "Competition with Nondrug Outlets" at the February meeting. Another feature of the meeting was the showing of the N.W.D.A. film entitled "P.S." (Plus Sales).

New Orleans Branch—At the February meeting, *Dr. Joseph Meyer*, Chief of the Radioisotope Department of the Veterans' Hospital, addressed members of the Branch on Atomic Medicine.

Northern California Branch—*Mrs. Marie B. Kuck*, newly elected President, presented her inaugural address at the January meeting.

Philadelphia Branch—The March meeting, which was held jointly with the College of Physicians, was addressed by *Theodore B. Wallace*, Medical Department Manager of Smith, Kline and French Laboratories, on the subject "The Physician, Pharmacist and the FDA."

Puget Sound Branch—*Arnold N. Morton*, Inspector for the Federal Food and Drug Administration, spoke on "The Pharmacist and the Federal Food, Drug, and Cosmetic Act" at the February meeting.

Rochester Branch—The February meeting was addressed by *Dr. James Hershey*, Chief of the Civil Defense Commission of New York, who spoke on "The Role of the Pharmacist in Civil Defense."

Southeast Texas Branch—The new officers for 1957 are *James McCarty*, President; *Howard Logan*, Vice President; *Tom Horner*, Treasurer; *Dr. Ruth Kroeger*, Secretary, and *James McKinley*, Delegate.

Western New York Branch—A panel discussion on ataraxics was held during the February meeting. The panel was composed of *Dr. William F. Lipp*, *Dr. Julian L. Ambrus*, and *Ray Bonnell*, and was moderated by *William H. Burckart*. *Dr. Walter T. Zimdahl* addressed the March meeting on "The Heart" and presented a film, "Modern Medicine Looks at the Heart."

STUDENT BRANCHES

Albany College—*Harry Gerren*, D.D.S., addressed the March meeting on "Dentistry and Pharmacy."

Brooklyn College of Pharmacy—At the February meeting, *R. Wisschhusen*, representative of Smith, Kline and French Laboratories, presented a film on "Chlorpromazine."

Duquesne University—Senior students *Francis Konieczny* and *Charles Mahood* presented papers at the February meeting on various aspects of the Federal Food, Drug, and Cosmetic Act.

Ferris Institute—*Dean Edward Claus* presented a talk on allergies at the February meeting of the Branch.

Fordham University—At the February 13 meeting *Dr. C. E. Poetsch* of Smith, Kline and French Laboratories addressed the members on "The Types of Positions That a Pharmacist Might Fill in Industry."

George Washington University—*George F. Archambault*, Chief, Pharmacy Branch, Division of Hospitals, U.S.P.H.S., spoke on "Careers for Pharmacists with the National Institutes of Health" at the January meeting. Newly elected officers are *Samuel Toggas*, President; *Jack W. Miller*, Vice President; *Eugene Korn*, Secretary; and *F. R. Wojcik*, Treasurer. *Allen J. Brands*, Chief Pharmacy Officer, Division of Indian Health, U.S.P.H.S., addressed the March meeting on "Pharmacy in Indian Health."

Howard University—The February 20 meeting featured a debate between Juniors and Seniors on the resolution "That a Five-Year Program Be Established in the College of Pharmacy."

Ohio State University—*Dr. John Nelson* and *Arthur Lytle* of the faculty presented a debate on the topic "Professionalism vs. Commercialism in Distribution of Nonlegend Drugs" at the January meeting.

Philadelphia College of Pharmacy and Science—At an evening meeting on February 6, guest speakers *J. B. Merrick* and *L. B. Seiden*, pharmacy proprietors, discussed the contrast in problems encountered in the operation of the "prescription pharmacy" and the "community pharmacy."

St. John's University—Nearly 400 students heard *Robert A. Hardt*, Vice President of Hoffmann-LaRoche, speak on "A Career in Pharmacy, Its Challenges and Rewards" at the March meeting.

Southwestern State College—Guest speaker at the January 7 meeting was *Paul Snelson*, Director of the Hospital Division of the Oklahoma Department of Health. His address dealt with the background and objectives of hospital development in Oklahoma.

Texas Southern University—Members of the Branch devoted their February 4 meeting to the appointment of Committee chairmen to direct activities for the second semester.

University of Buffalo—On January 9, members of the Branch made an

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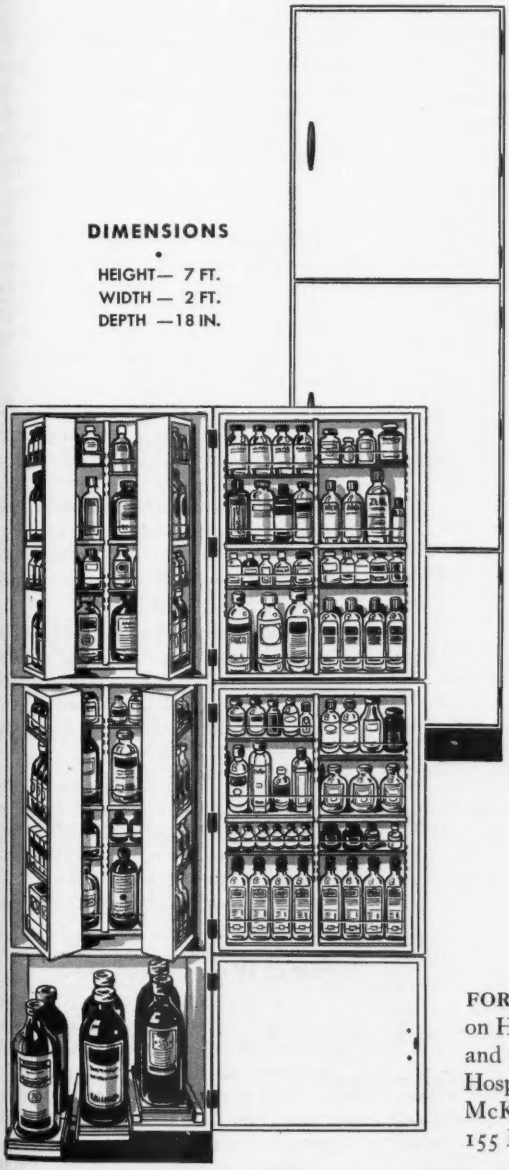

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interesting and informative tour of Roswell Park Memorial Institute, one of the largest cancer research hospitals in the world. *Dr. S. Barnes* lectured the group on "The Treatment of Cancer."

University of California—At the March meeting *John A. MacCartney*, President of A.Ph.A., addressed the members of the Branch on "The Immediate Future of Pharmacy as a Profession."

University of Colorado—Newly elected officers are: *Ronald Wreath*, President; *Jack Koole*, Vice President; *Carl Montgomery*, Treasurer; and *Marge Wickman*, Secretary.

University of Florida—A panel discussion on the topic "The Student and His Profession" highlighted the March meeting. Members of the panel were *F. A. Canova*, Secretary of the Florida State Board of Pharmacy; *P. A. Foote*, Dean of the College of Pharmacy; *C. H. Johnson*, Professor of Pharmacognosy and Pharmacology; and *J. H. Kern*, Assistant Professor of Pharmacy.

University of Georgia—*Frank Chou*, exchange student from Formosa, spoke at the January 17 meeting of the Branch on "Life in America."

University of Illinois—The November meeting featured the showing of the film "Four More Prescriptions a Day" which was presented by *William Mahoney* of Owens-Illinois and *Milton Prizant* of Gazzolo Drug and Chemical Co. In December the Branch heard *Samuel Shkolnik* discuss various aspects of the Illinois pharmacy laws.

University of Kansas—"Do You Fill Prescriptions Here?" a film made available by Owens-Illinois Company and the National Wholesale Druggists' Association, was featured at the February 5 meeting of the Branch.

NORTHERN NEW JERSEY BRANCH cosponsored 13th annual Seminar Lecture Series for Practicing Pharmacists held February 13–March 6 with Rutgers. Paul A. Pumpian (l.), patent attorney for Squibb, Goodsell F. Waters (2nd from r.), Jersey City pharmacist, and Bert Morgovsky, Red Bank pharmacist (r.), welcome lecturer William English of Becton Dickinson.

University of Kentucky—*George F. Archambault*, U.S.P.H.S., spoke at the February meeting on "Hospital Pharmacies."

University of Maryland—At the March meeting, *Sylvan M. Shane*, M.D., addressed the Branch on the topic "What Is Modern Anesthesia?"

University of Mississippi—A film entitled "The Prevention and Treatment of Syphilis" was shown at the February meeting. Two films, "A Matter of Time" and "Natural Childbirth," were shown at the March meeting.

University of Nebraska—At the February meeting *David D. Stiles*, Director of Market Development for Abbott Laboratories, was guest speaker. "The Story of Pharmacy" was the topic of his address. The program of the January 16 meeting included the showing of the film entitled "The Story Behind the Doctor's Prescription," made available by E. R. Squibb and Sons. Newly elected officers of the Branch are: *Don Svanda*, President; *Bill Alexander*, Vice President; *Katie McCullough*, Secretary; and *Karen Greenlee*, Treasurer. *Dr. Varro E. Tyler, Jr.*, is faculty advisor.

University of Oklahoma—Newly elected officers of the Branch are: *Don H. Frantz*, President; *John L. Prendergast*, Vice President; *Ima Jane Wood*, Secretary; and *A. Michael Freeland*, Treasurer.

University of Pittsburgh—The Branch meeting of January 19 honored faculty member *Dr. Edward P. Claus*, who has been appointed Dean of the Ferris Institute College of Pharmacy.

University of South Carolina—*Marvin Byrd*, Vice President and General Manager of Smith Wholesale Drug, Spartanburg, S. C., discussed "Your Future as a Pharmacist" at the February meeting.

University of Texas Student Branch member *Lonnie F. Hollingsworth* has been named to receive the Drug Travellers Association of Texas award for 1956–57.

University of Toledo—The December meeting was held at Opportunity Home for Crippled Children. Entertaining skits were presented by the members, and gifts were presented to each child.

University of Utah—*Walter Boyden*, Parke-Davis representative, addressed the January 15 meeting of the Branch on the subject, "History of Pharmacy." Slide films were used to highlight the discussion. Plans are being made to hold a "mock" convention in May.

CHICAGO BRANCH—Milton Prizant of Gozzola Drug Co. makes his point to (l. to r.) William Morse, Pres., Sargents' Drug Stores; I. Arnove, Prop., Parkway Drugs; Howard Stephen of Lilly; and Dave Allen, Mead Johnson, after discussions on "Prescription Department—What Direction?"

University of Wisconsin—A film on the Salk Vaccine was presented by *Glenn Weiss*, representative for Eli Lilly and Company, at the December 19 meeting of the Branch. At the January 16 meeting the following officers were elected: *Dave Sherman*, President; *Tom Rolando*, Vice President; *Nancy Lundgren*, Secretary; and *Bob Pualick*, Treasurer.

University of Wyoming—The meeting held on January 15 was given over to the discussion of methods of increasing attendance at meetings. *Kenneth Henderson* is now Acting President and *Raymond Mendoza* is Vice President.

West Virginia University—*William Dixon*, Secretary-Manager of the West Virginia State Pharmaceutical Association, used as the subject of his speech, "The State Association and You" at the February 4 meeting. *Dean J. Lester Hayman* introduced new faculty member *Dr. Frank O'Conner* to the Branch.

Washington State College—First Vice President of the A.Ph.A., *Ronald V. Robertson*, spoke at the December 19 meeting of the Branch on "Recent Accomplishments of the A.Ph.A. on the National Level."

Charles C. Rabe, Assistant to the A.Ph.A. Secretary, addressed meetings of the Student Branches of the **University of Connecticut, Massachusetts College of Pharmacy,** and **New England College of Pharmacy** during the week of February 4.

District IV Branches Meet

Delegates and representatives of 9 Student Branches attended the annual District IV Convention held at the University of Michigan on March 14–16. The general theme of the meeting was "Better Organization through Stronger Legislation."

The trophy awarded each year to the Student Branch with the largest representation at the meeting went to the University of Illinois for the third consecutive year.

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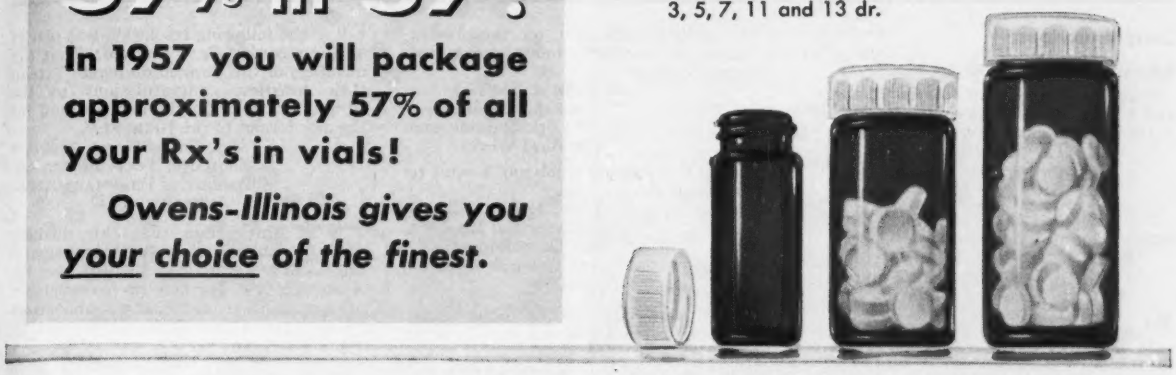

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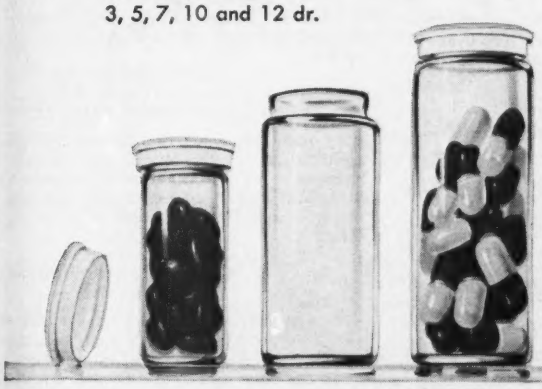

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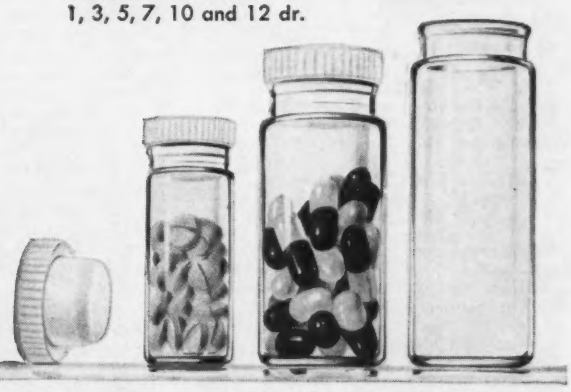

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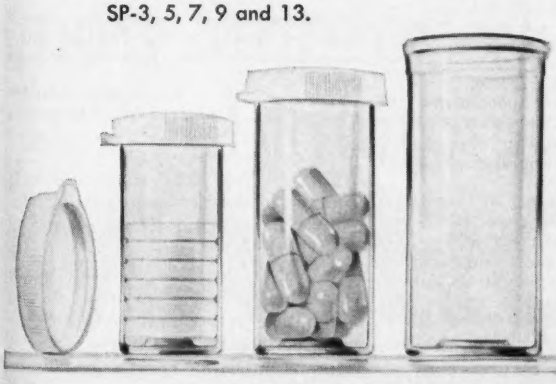

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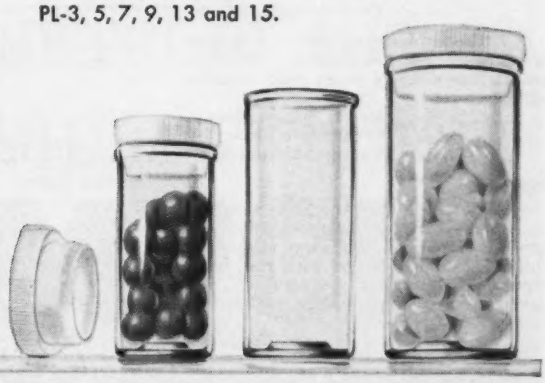

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(Miss) Margaret Macklin, Editor
Canadian Pharmaceutical Journal
Toronto, Canada

Government

"...would like to congratulate you on the new and attractive JOURNAL... excellent cover picture...much enhanced by the delicate color scheme...and the boldness of the JOURNAL title..."

Morris Ostrolenk
Department of Health, Education,
and Welfare
Washington, D. C.

"...this change in the JOURNAL will not only produce an increase in membership and circulation but will also lead to a more intensified interest in the features of the JOURNAL...."

Carl M. Schechter
U.S. Army

Professional Practice

"...a very wonderful job in reorganizing and making the JOURNAL of much more value to the practicing pharmacist...."

Herbert L. Flack,
Director of Pharmacy Service
Jefferson Hospital, Philadelphia

"Just received our *new* PRACTICAL PHARMACY JOURNAL...a very fine job... was especially pleased to have it by January 23...our advertisers will appreciate that very much..."

Jack B. Heinz
Heinz Apothecaries
Salt Lake City, Utah

"...a decided improvement over past publications, both in appearance and reading matter...."

James A. Peterson
St. Louis, Mo.

"...to be congratulated on your definite improvement in the arrangement, size, etc., of the January issue of THIS JOURNAL...."

E. Dwane Richards, R.Ph.
Richards Pharmacy
Des Moines, Iowa

"...was greatly delighted to find that its content has improved at least 100%... Sincerest congratulations!..."

John P. Ziesch, R.Ph.
Lake Charles, La.

Related Activities

"...I indeed want to congratulate you on the format and content of the *Practical Pharmacy Edition*. I am sure that this is going to be a much more salable publication to the readership and consequently to the advertisers...."

Steven K. Herlitz
Steven K. Herlitz, Inc.
New York City

"...the following resolution was placed on the records: *Be It Resolved:* That the members of this Branch do hereby extend their heartiest congratulations to the editor, Dr. Eric Martin, and his staff for the new format of the JOURNAL."

Mrs. Ruth Kroeger, Secretary
Southeast Texas Branch
AMERICAN PHARMACEUTICAL
ASSOCIATION

"...I am certain that this medium will not only stimulate the submission of more and better articles, but will give the ASSOCIATION'S issuance a competitive advantage over the many publications which pharmaceutical houses, physicians, and pharmacists receive regularly...."

Irving Ladimer
Community Council of
Greater New York

"...many students came to tell me how well they like THIS JOURNAL. With all the achievements the A.Ph.A. has made, I am very proud to be associated with it."

Virginia Madden, Secretary
Student Branch, A.Ph.A.
University of Pittsburgh

"I have just had the pleasure of examining at greater length the January issue of your JOURNAL in its expanded form and hasten to express to you my warmest congratulations on a job superbly done...."

Heinz Norden
The Medimetric Institute
New York City

"...My congratulations to you for the new and excellent format of the JOURNAL. This is a decided improvement upon the older and long established form. It is better in appearance, arrangement and readability."

Frank O. Taylor
American Drug Manufacturers
Association

"Congratulations...upon the vastly improved format of the *Practical Pharmacy Edition* of the JOURNAL OF THE A.Ph.A."

O. J. Willoughby, Publisher
Drug and Allied Industries
Atlanta, Ga.

Editor's Note: The above abstracts from the floods of letters, telephone calls, and other communications are typical of those received after the change in format of the JOURNAL was made at the beginning of 1957. Although it is a stimulating and soul-satisfying experience personally to receive such a vigorous and happy response, it must be pointed out that the tremendous task of creating a new issue each month can only be accomplished with the earnest cooperation and help of a large number of associates. Magnificant participation by officers of the ASSOCIATION, members of the Committee on Publications, friends in all segments of Pharmacy, and especially the hard-working JOURNAL Staff is the real reason for this successful publication. We are all very grateful for these kind remarks.

The ubiquitous microbe
". . . capable of producing
lesions virtually anywhere
on the body surface. . . .
At times it seems as if every
Staphylococcus is different."[1]

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MATROMYCIN®

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- resistance to Matromycin itself does not readily occur and emerges slowly and in adaptive fashion, as shown by experiments with various strains of *M. pyogenes* (clinical isolates)[2]
- outstandingly safe and well tolerated

Available in 250 mg. capsules, bottles of 16

references: 1. McDermott, W.: Ann. New York Acad. Sc. *65*:59 (Aug. 31) 1956. 2. Noyes, H. E.; Nagle, S. C., Jr.; Sanford, J. P., and Robbins, M. L.: Antibiotics & Chemother. *6*:450 (July) 1956.

Pfizer PFIZER LABORATORIES, Brooklyn 6, N.Y.
Division, Chas. Pfizer & Co., Inc.
World leader in antibiotic development and production

CURRENT COMMENT

Military Section Meeting

On Friday, May 3, 1957, at the AMERICAN PHARMACEUTICAL ASSOCIATION Convention in New York City, the Military Section will convene. The following personnel will participate in the Section meeting: Chairman: Col. Bernard Aabel (Army), Col. James H. Kidder (Army), Lt. Col. William Austin (Army), Col. Phillip G. Fleetwood (Air Force), Col. Kenneth Johnson (Air Force), Capt. William Calkins (Navy), Lt. Cdr. Solomon C. Pflag (Navy), Mr. Vernon Trygstad (V. A.), Capt. George F. Archambault (Public Health), Maj. Arthur Einbeck (Army Res.), and Maj. Paul T. Medici (Army Res.).

Reserve officers will be given point credits for attendance. One officer from each of the five services will present a 10-minute talk on the status of pharmacy in his particular service. This will be followed by a question and answer period, in which the entire panel will participate.

A Military Section of the A.Ph.A., if written into the By-Laws, will become the seventh Section of the ASSOCIATION to be recognized since the work of the A.Ph.A. was rendered more efficient through the establishment of Sections in 1887.

C.B.C. Center Closing

The Chemical Biological Coordination Center, now in its eleventh year of operation, is about to close. Under the auspices of the National Academy of Sciences–National Research Council, the Center was begun with a small staff and the files of the wartime Office of Scientific Research and Development Insect Control Committee. It has rendered splendid services to the Army, the Navy, the National Institutes of Health, the Atomic Energy Commission, the National Science Foundation, the American Cancer Society, and others, but funds available are no longer adequate to finance its operation.

This is an unfortunate situation because the Center, with the use of a chemical code and a biology code designed for use with IBM punched cards, has been able to code, store, and successfully retrieve masses of scientific information. The Center also developed a background of research and experience in the methodology of data handling. During the eleven years of its existence, 63,000 compounds were coded, and 100,000 biology code sheets were prepared. A total of 1,500,000 cards is now on file for purposes of mechanical searching.

One of the greatest needs in industry and for the defense of our country is such well-coordinated coding of scientific data. No more fruitful way of spending funds can be found than supporting this type of activity. Yet, unfortunately, the closing of the Center is imminent. It would be a serious mistake if the thousands of industrial, government, and private organizations which have benefited from C.B.C. should fail to provide the needed support.

New and Nonofficial Drugs

Two changes in names of long standing were officially announced by means of an editorial in the February 23, 1957, issue of *The Journal of the American Medical Association.* The Council on Pharmacy and Chemistry of the American Medical Association, dating back to 1905, has been re-named the Council on Drugs. *New and Nonofficial Remedies,* issued annually since 1907, has been renamed *New and Nonofficial Drugs.* These changes reflect alterations in A.M.A. policy as outlined in the editorial:

"With use of the name Council on Drugs and publication title *New and Nonofficial Drugs,* it is hoped that physicians especially will be encouraged to make more use of the Council's column of *The Journal* and the current and succeeding editions of its annual publication as an increasingly informative source of unbiased information concerning the actions, clinical uses, hazards, and dosage of commerically available new drugs. The Council now undertakes to provide such information on all new drugs whether or not their usefulness and limitations have been conclusively established by currently available, scientific data and reports of investigations. In addition, the Council lists all known domestic trade (commercial) names with each new monograph and supplemental statement appearing in its column of *The Journal* and also on a cumulative basis, with all monographs and the general index in its annual publication."

An attempt is being made to provide the practitioner with a comprehensive source of current clinical information on numerous identical drugs appearing under various names. The JOURNAL will continue to carry this information as a service to our readers in the *Prescription Practice* department.

Infective Aerosols

Early last year near Portland, Ore., approximately 60 persons were infected with a virus causing ornithosis, after an animal rendering plant had processed several hundred infected turkeys which had died from the disease. This disease which infects birds, including parrots (psittacosis), was apparently transmitted by means of aerosols emanating from the rendering plant, according to J. Clifton Spendlove of the Biological Warfare Laboratories at Dugway Proving Grounds, Utah. Dr. Spendlove during his investigations found that aerosols of intestinal organisms were created by the "gut hasher." With the aid of Anderson samplers and nonpathogenic organisms, he was able to show that many organisms survived the early stages of the rendering process and were carried downwind from the stacks of the plant. Other organisms causing animal diseases transmissible to man which might be carried downwind from a plant without adequate aerosol control are those causing anthrax, brucellosis, tularemia, glanders, sylvatic plague, Q fever, and equine encephalitis. [*Public Health Reports,* **72,** 176(1957).]

In broad-spectrum antibiotic therapy:

NOW, SAVE TIME AND LABOR

Tetrex™ CAPSULES

TETRACYCLINE PHOSPHATE COMPLEX

— each capsule equivalent to 250 mg. tetracycline hydrochloride

An appreciable saving in nurses' time and labor, with less disturbance of patients, is now possible with the clinically proved **b.i.d.** dosage schedule for TETREX — the new, more efficiently absorbed tetracycline.

Recent studies have confirmed the fact that TETREX is therapeutically effective on a b.i.d. dosage plan. Three independent investigators, who administered 500 mg. (2 capsules) of TETREX twice-a-day to 99 patients, reported successful results in 96 patients, or 96.9 per cent.[1] Significantly, not one of the patients developed side effects, serious enough to suggest discontinuance of therapy.

This effectiveness and safety are fully equivalent to results achieved under a 250 mg. (1 capsule) q.i.d. dosage schedule.

DOUBLY HIGH BLOOD LEVELS: Tests in 188 patients[2] showed that TETREX produces faster and higher blood levels — practically **double** those of tetracycline HCl within 1 to 3 hours after administration. Yet, with all its advantages, TETREX costs no more than the older tetracycline HCl.

Clinically proven:

B.I.D. DOSAGE

just as effective (and safe) as q.i.d. dosage

Why not check now to be sure your stock of Tetrex is adequate for all requisitions?

1. Studies conducted by A. Prigot, L. Putnam and G. A. Cronk.
2. Studies conducted by P. A. Bunn, Sol Katz and G. A. Cronk.

Bristol LABORATORIES INC., Syracuse, New York

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Pharmaceutical
Aids of **ATLAS**

SORBITOL... SORBO® conforms to N.F. X standard for "sorbitol solution."

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POLYSORBATE 80 TWEEN® 80 emulsifier conforms to U.S.P. XV standard—also referred to as "polyoxyethylene (20) sorbitan monooleate" or "soreethytan (20) monooleate."

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These adjuncts, and also the well known SPAN® and ARLACEL® (sorbitan fatty acid ester) emulsifiers, and TWEEN® (polyoxyethylene sorbitan fatty acid ester) emulsifiers, are available for extemporaneous compounding from the following suppliers:

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CHEMICALS DIVISION
ATLAS POWDER COMPANY
WILMINGTON 99, DELAWARE
Atlas Powder Company, Canada, Ltd., Brantford, Ontario, Canada

CURRENT COMMENT

New Minimum Daily Requirements

The Food and Drug Administration has proposed new minimum daily requirements for two of the B vitamins. Dr. E. M. Nelson, Director of the Division of Nutritions of the FDA points out that the dietary food regulations first adopted in 1941 will be brought into more general agreement with the adoption of the following amendments:

Proposed Minimum Daily Requirement

Age Group	*Niacin, mg.*	*Riboflavin, mg.*
Infants	2.5	0.5
Children under 6	5	0.75
Children over 6	7.5	0.75
Adults	10	1

Pharmacists in Government Service

The Steering Committee of the Committee on Status of Pharmacists in Government Service met in Washington on March 11 and 12 to give further consideration to the implementation of the program of the Committee.

Chairman F. Royce Franzoni had arranged conferences with the Surgeons General of the Army, Navy, and Air Force, and the committee met with Surgeon General of the Army Silas B. Hays on Monday morning, March 11, with Surgeon General Bartholomew Hogan of the Navy in the early afternoon of the same day, and with Surgeon General Dan C. Ogle of the Air Force in the late afternoon.

The committee also met with Dr. Frank Berry, the Assistant Secretary of Defense for Health and Medical Affairs, on Tuesday, March 12.

Discussions covered the various resolutions adopted by the constituent bodies making up the committee, and considerable information was obtained for incorporation in the annual report of the committee, which is now in course of preparation.

The members of the Steering Committee in attendance included F. Royce Franzoni, Chairman; Pierre Smith, Arthur Einbeck, Francis S. Balassone, and Milton W. Skolaut.

The Mentally Ill Can Come Back

It is estimated that one out of every 10 children born today will need mental hospital care sometime during his lifetime. More than 250,000 new patients will be admitted to mental hospitals in the United States this year. There are now more than 750,000 patients in mental hospitals in this country.

At least 65% of these patients can be returned to useful lives with proper treatment. Unfortunately, personnel and facilities are not generally available to assure early detection and to provide adequate care and treatment in the early stages when it will be most effective. Because of this situation, tens of thousands who could live useful lives are doomed to live in mental institutions.

The ninth annual observance of Mental Health Week will be held April 28–May 4. The National Association for Mental Health and the National Institute of Mental Health, as co-sponsor, are marshalling the support of every governor and every municipal executive in the larger communities in an all-out attack on the number one health problem in this country.

Promoting Your Pharmacy

Typical of the promotional literature which is sent by pharmacists to their physician clients is the sheet entitled *Secundum Artum*, published p.r.n. by Scharringhausen Pharmacy, Park Ridge, Ill. The February 1957 issue included the following item:

"Those detail men that call on you regularly (and in some cases only get to see you occasionally) are really V.I.P. With the swiftly changing picture in pharmaceutical research and the resultant new medicaments made available daily (over 400 last year) these detail men can be more valuable channels of pertinent information on new products or new applications of the old ones. If you could peek behind the scenes you might be surprised to see how thoroughly these detail men are indoctrinated with product information. Cost-wise you may also be surprised to learn that every time a detail man from one of our ethical houses steps into your office, it costs his company an estimated $7.50. Pharmacies come a bit cheaper as their calls on us are charged off at just over $5 each. At any rate, we have found it well worth our time to listen to the messages these V.I.P. have for us. Most of the ones currently assigned to our area are real sharp boys and we personally believe that you too will find the information available from these V.I.P. worth the loan of an occasional ear."

Attached to *Secundum Artum* was the sheet shown below which reproduces the newspaper advertisements and the letter to the editor carried by Scharringhausen Pharmacy in the local paper.

Mothers! Dads!
Take Your Family for POLIO SHOTS!

SCHARRINGHAUSEN PHARMACY

Polio Wont Wait....
Vaccinate NOW!

SCHARRINGHAUSEN PHARMACY

A LOCAL POLIO EDUCATIONAL PROMOTION

This series of consecutive weekly advertisements was placed in local newspaper, The "Open Letter" was reproduced in two local papers. One paper placed it on the front page.

The signature on January 24th advertisement is that of Dr. Jonas E. Salk, whom we were privileged to meet at the A.M.A. Polio Conference.

Respectfully submitted as a cooperative effort in current American Medical Ass'n Polio Educational Program.

LETTERS TO THE EDITOR

DID YOU KNOW?

SCHARRINGHAUSEN PHARMACY

Polio Is No Longer "Kid Stuff"

Most recent statistics indicate that attacks of this dread disease are often most severe in adults!

Medical authorities now recommend immunization of everyone, up to 50 years of age!

SCHARRINGHAUSEN PHARMACY

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NEW HALF-INCH

VASELINE® STERILE PETROLATUM GAUZE

½" x 72"... in disposable plastic tubes

★ Selvage-Edged
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Order from your local wholesaler or Colgate-Palmolive Co.

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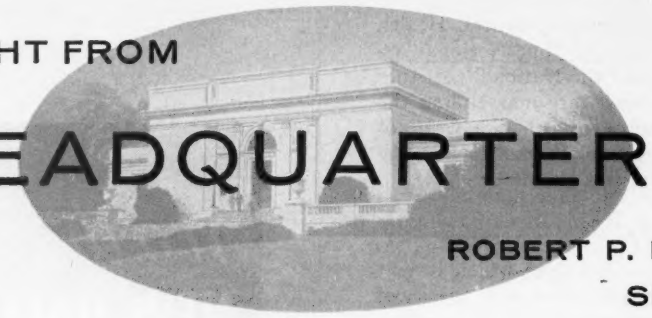
STRAIGHT FROM HEADQUARTERS



ROBERT P. FISCHELIS, SECRETARY

The All-Inclusive A.Ph.A.

FROM April 28 to May 3, New York City will be the center of attraction for American pharmacists. Here will be gathered the representatives of every vocational phase of pharmacy and the opportunity for exchange of views on pharmacy's many problems will be unparalleled. What is accomplished will be reported in some detail in the May issue of THIS JOURNAL.

Everyone who has attempted an impartial appraisal of the functions of pharmacy in medical care, comes to the conclusion that there are professional and economic factors involved in the practice of this branch of the healing arts which make it necessary to organize separate societies to serve its various specialties adequately. This is not to say that the profession of pharmacy and the drug industry do not, or cannot be made to, function unitedly in the public interest as well as in their own interests.

Every survey of pharmacy, governmental or private, recites the conflicting interests which are bound to show up when the professional, the manufacturing, and the distributing groups carry on their respective functions. The latest national pharmaceutical survey carried on under the supervision of Dr. E. C. Elliott and financed to the extent of more than $100,000 by the American Foundation for Pharmaceutical Education pointed out these difficulties and offered recommendations for their amelioration, if not solution. It did not urge the merger of all existing organizations because it is quite clear that each national organization, like the national organizations of American Medicine, such as the American Medical Association, the American College of Surgeons, the American College of Physicians, the American Academy of General Practice and the innumerable specialty organizations, boards and conferences in American medicine, serves an essential purpose. True enough, they overlap at times in their functions but they manage to work together in areas where there can be agreement in principle and these are much more plentiful than are the areas of disagreement.

The fact that the AMERICAN PHARMACEUTICAL ASSOCIATION is representative of all phases of pharmacy is sometimes pointed to as a weakness. Actually, it is its greatest point of strength. What the ASSOCIATION needs is some of the funds which are now being contributed by industry to special agencies to carry on fact-finding researches. The results of the ASSOCIATION'S researches have always been made available to all the other national associations serving special interests such as those of retail drug store owners, the various classes of manufacturers and wholesalers, multiple unit organizations, specialist groups, educators, and others.

We do not need a single voice to speak for pharmacy and the drug industry as a whole nearly as much as we need the facts which will enable the all-inclusive A.Ph.A. to continue to keep the interests of the profession and the industry in balance with the public interest as it is made manifest by the facts developed in public hearings before the Congress of the United States, state legislatures, public administrative bodies and by the surveys and polls conducted by public and private agencies in the fields of health, education, and welfare.

Hospital Pharmacy Progress

THIS issue of the JOURNAL is dedicated to hospital pharmacy because of the rapid progress that has been made by this professional specialty in recent years. While it has always been the objective of the AMERICAN PHARMACEUTICAL ASSOCIATION to endeavor to represent pharmacy as a whole, we recognize the importance of specialization. We are conscious of the special contributions now being made to the promotion of better health by those who specialize in manufacturing, prescription dispensing, teaching, hospital pharmacy, administration, and other activities.

In the practice of these specialized functions, the pharmacist comes in contact with other professions in the health field, with the public in general, and with government agencies at all levels. From these contacts other members of the healing arts gain their impression of pharmacy.

No group has had greater opportunity to represent pharmacy adequately at the levels where complete medical care is furnished than those who are engaged in hospital pharmacy. Hospitals themselves have taken such a prominent place in the lives of people that any activity which goes on in these institutions makes the public extremely conscious of all of the specialized services provided by them.

We are fortunate that those members of our profession who have chosen to carry on their work in hospitals are making such splendid contributions, not only to hospital service, but also to the improvement of dispensing techniques and the development of services required in adjusting our social order to the technological changes in the rapidly developing medical sciences.

The audit of hospital pharmacy now proceeding through a Public Health Service grant to the AMERICAN PHARMACEUTICAL ASSOCIATION and described elsewhere in this issue is bound to reveal the extent of pharmacy's contribution to health care and open up new avenues for extension of such services. We confidently look forward to carrying on additional surveys which will bring out the progress being made in other subdivisions of pharmacy when the hospital pharmacy survey has been completed.

The establishment of the professional services of pharmacists in hospital organizations on a firm basis cannot help but influence favorably the appreciation of services rendered by pharmacists elsewhere in private practice.

We recommend careful reading of the articles dealing with hospital pharmacy in this issue, and we venture to suggest that pharmacists engaged in other specialties in our field will be stimulated by the accomplishments of those who have chosen to function in hospitals.

Disappointing Court Decisions

THE recent court decisions in Minnesota and New Jersey in which judges have had to determine whether certain drugs should be saleable without the supervision of registered pharmacists are disappointing to those who believe that public protection beyond label warnings are essential in the distribution of all drugs.

When a judge after hearing all of the evidence declares that "there is no causal relationship between the ingestion of excessive amounts, or the improper use, of the products under examination and the manner in which they are purchased or the place where the purchase is made" one must stop and give thought to the effectiveness of current education on what constitutes protection of the public health.

And when the same judge states that "it matters not whether the drug or medicine is purchased in a drugstore or in a corner grocery; the fact is that, when the purchaser walks out of the store, all control over the drug or medicine passes from the seller and from that time on the responsibility for proper usage lies entirely with the purchaser," one must wonder why the testimony presented evidently left him unimpressed with the importance of the registered pharmacist's legal function.

The judges have overlooked entirely that the purchaser needs information which will enable him to discharge his "responsibility for proper usage." This is something he cannot acquire from the reading of a label. He can obtain it only from the source of supply, if the person at the source of supply is competent to provide the information. Such competent persons are not to be found in filling stations, grocery stores, and supermarkets.

We understand that these cases will be appealed. Perhaps the higher courts will consider the facts in all of their important implications. The future of pharmacy depends greatly on whether there is to be general public acceptance of these judicial opinions emanating from the lower courts. Recognition of the registered pharmacist's essential function in the distribution of drugs should be of just as much importance to the proprietary medicine industry as it is to the profession of pharmacy.

A Message to the Women's Auxiliary

THE New York Convention will mark the twenty-first anniversary of the founding of the Women's Auxiliary of the A.Ph.A.

Spring, pharmacy, friends and fun, constitute an irresistible combination to attract members of the Auxiliary to what appears certain to be one of the finest conventions any of us has ever attended. I have had an opportunity to peek into the advance announcements of the Entertainment Program and "fabulous" is no exaggerated term to apply to what lies in store for us from April 28 to May 3.

A musical entertainment on Sunday Evening; a boat ride around Manhattan on Monday; an elaborate brunch preceding our first meeting on Tuesday, followed by a bus tour of New York and a visit to the United Nations headquarters; special breakfasts on Wednesday and Thursday; a matinee on Wednesday afternoon; a luncheon and style show at the Waldorf on Thursday; and the ASSOCIATION'S splendid banquet on Friday, constitute the highlights of this gala week.

The Auxiliary's objective of fellowship becomes a tangible quality at convention time, making every woman who attends feel warmly welcome in this friendly group. We extend a very special invitation to the ladies who have not attended an AMERICAN PHARMACEUTICAL ASSOCIATION convention before. We want you to know that you will find a host of new friends, that you will be a part of all the exciting activities and we are sure that you will enjoy our two streamlined business meetings. The Auxiliary has its own program of furthering the profession of pharmacy, one of interest to all women.

So, please plan to come to the AMERICAN PHARMACEUTICAL ASSOCIATION convention, join in pharmacy's annual meeting—for pleasure, and in tribute to an honored profession.

Mrs. Leib L. Riggs, *President*

Earl R. Serles

AS REPORTED elsewhere in this issue of the JOURNAL, Earl R. Serles, another past president of the AMERICAN PHARMACEUTICAL ASSOCIATION has been called to the Great Beyond. Dr. Serles was Dean of the College of Pharmacy, University of Illinois. He passed away on March 13. He was president of the A.Ph.A. in 1946–47 and presided over the Milwaukee Convention in 1947.

In addition to his distinguished career as a teacher and administrator, Dean Serles gave outstanding service to pharmacy as an ASSOCIATION official who interested himself in the oncoming generation of pharmacists. He was one of the number of teachers who urged the formation of Student Branches of the A.Ph.A. and was an early advocate of the organization of a section for the extension of student activity at the annual conventions of the A.Ph.A.

He always gave special attention to pharmacy's importance as a part of the health team and was an important factor in the administration of the professional schools of the University of Illinois at Chicago. We join the many friends Dean Serles made throughout his career, in mourning his loss.

EDITORIALS

The grave hazards of radioactive contamination arising from nuclear power installations, nuclear weapons testing, and other sources should not be minimized. Radiation from certain substances, notably strontium 90 (Sr^{90}), is conducive to the development of leukemia and bone cancer, and it also shortens life. Any increase in gamma radiation, regardless of the amount, induces a corresponding increase in the mutation rate of man. Unfortunately, human gene mutations nearly always act unfavorably on development, growth, or well-being of the individual.

Radioactivation of Man

Authorities on radioactive contamination of air and water refer to world-wide data currently being collected and compiled by an international sampling network. Hundreds of analyses performed after autopsy in all parts of the world indicate that Sr^{90} is now accumulating in all human beings regardless of age or geographic location.

Plants, animals, soils, foods, and human skeletons are constantly and unavoidably accumulating radioactive wastes. The *average* concentration in man on a world-wide scale is now estimated to be only about 0.12 micromicrocuries of Sr^{90} per gram of calcium, or about $^1/_{10,000}$ of the maximum permissible concentration. One analysis of human bone at Vancouver, British Columbia (tibia 49 years old) indicated a concentration in the skeleton of 9.1 micromicrocuries of Sr^{90} per gram of calcium. On the basis of the calcium in an average skeleton, the total amount of Sr^{90} present in the bony structures had increased, therefore, to roughly $^1/_{100}$ of the maximum permissible quantity. There is the small, but finite, probability therefore that there are other human beings with higher concentrations.

Evidence has now been gathered to demonstrate that large nuclear explosions blast radioactive dust so high into the atmosphere (80,000 feet) that fall-out occurs fairly evenly over the entire face of the inhabited earth and continues over a prolonged period of time. We now realize also that under normal living conditions no one escapes the deadly invisible rays emanating from the radioactive particles and that the radioactivity of these particles produces undesirable mutations in man and other harmful effects.

Fortunately the fall-out is delayed long enough so that most of the radioactive decay has occurred before it reaches the environment of man on the surface of the earth. For every seven-fold increase in age of the radioactive dust, there is a ten-fold decrease in radioactivity. Thus at the end of 7 hours the total radioactivity has decreased to $^1/_{10}$ of what it was one hour after the explosion, and after two weeks to $^1/_{1,000}$ of the activity at the end of the first hour. However, Sr^{90}, with a half life of 28 years, is still fiercely radioactive at the end of many years.

Generations Yet Unborn

Experts testifying before Congress have estimated on the basis of animal experiments that scores of mutations have occurred in the world population since nuclear weapons testing was begun a few years ago. We wonder what handicaps will be suffered by generations yet unborn as a result of these mutations. How many mutational defectives will be added to the 80,000 now occurring in the U.S. alone among the 4,000,000 births each year? It has been estimated that 6,000 defective babies will be born into the world during the next generation as the result of nuclear tests to date.

The Need for Controls

Human health and welfare require that experimentation with nuclear power and all types of devices associated with radioactivity should be conducted under very rigidly controlled conditions. The health of mankind must be safeguarded in the presence of the powerful and highly dangerous new weapons and equipment of the nuclear age.

Pharmacy is but one of the health professions which will be able to make even greater contributions to humanity through diagnostic and therapeutic radiation techniques, but the dramatic benefits to be derived from nuclear energy can exact too high a cost in human suffering if not carefully controlled and properly employed. Radioactive wastes must be kept out of the air and water currents on the face of the earth and out of the vegetable and animal foods upon which man depends for life.

At least for the time being U.S. citizens on the average are receiving doses from fission products which are accepted as "safe." Nevertheless, as we face the future in the light of our present knowledge, basic questions re the calculated risk will have to be answered:

"How many malformed newborn babies per year can be balanced against the need for nuclear weapons tests?"

"How many citizens of the world should have their lives shortened or be made to suffer the agonies of leukemia or bone cancer as a concurrent necessity for adequate national defenses?"

Eric W. Martin

DIVISION OF

HOSPITAL PHARMACY

by Paul F. Parker

RELATING Hospital Pharmacy as a specialty to the other segments of the pharmaceutical profession is one of the purposes of the Division of Hospital Pharmacy. It is our hope that each JOURNAL reader will find some part of this special issue which will help to relate more clearly the practice of pharmacy in hospitals to his own particular pharmaceutical endeavors. Contributions have been selected which describe the various types and sizes of the institutions that make up the nation's 7,000 hospitals and their activities.

The King's Daughters' Hospital, pictured on the cover, which is a nonprofit corporation owned and operated by the people in Staunton, Va., is typical of the thousands of small hospitals throughout the country which furnish a majority of the nation's health needs. Its Board of Trustees is composed of civic leaders in Staunton who establish the hospital's policies of operation and relate them to the entire community. The administrator, Paul Flanagan, who is a graduate of the Medical College of Virginia, School of Hospital Administration, typifies the thousands of young career people who have obtained special training in administration of the affairs of hospitals in the best interests of the communities in which they are located. The pharmacist, R. David Anderson, who is president of the Virginia Society of Hospital Pharmacists and active in pharmacy affairs throughout the state, is also typical of the many hospital pharmacists working for better community health. We are happy to feature the King's Daughters' Hospital on the cover of this special issue devoted to Hospital Pharmacy.

Dr. Don E. Francke's article "The Objectives of Education and Training in Hospital Pharmacy" (page 224) summarizes the educational needs of hospital pharmacy as a specialty. It further develops concepts in pharmaceutical education which, if achieved on a widespread basis, could set a pattern for new advances in education for the entire pharmaceutical profession. The article provides a challenge to pharmaceutical educators by proposing a college course leading to the Doctor of Pharmacy degree for hospital pharmacists as a means of obtaining adequate general and professional education as well as education for research. Citing the hospital as the best possible environment for the training of pharmacy practitioners because it is the training center for essentially all members of the health team, Dr. Francke challenges each hospital pharmacist to make the special effort needed for the training of new generations of specialists in Hospital Pharmacy.

Supervision of pharmacy service by registered pharmacists in the thousands of small community hospitals is a primary interest of Walter M. Frazier and Robert E. Lawson. Mr. Frazier is a past president of the ASHP and has been a leader in pharmacy affairs in Ohio for several years. The article "Retail Pharmacy and Hospital Pharmacy" challenges the retail pharmacists of America to recognize not only the contributions which they can make to their communities but also the business opportunities available to them. Those who are interested in pursuing the subject further will be particularly interested in reading all the references listed in the article beginning on page 221.

The deep enthusiasm for hospital pharmacy possessed by William H. Briner is typical of so many young pharmacists who are seeking careers in the government services. Because of the unique opportunities in interprofessional relations and the broad scope of pharmaceutical services provided in the modern hospital, Mr. Briner justifies classification of Hospital Pharmacy as a specialty. Calling attention to the opportunities for the practitioner to make maximum use of his education and training in the hospital environment, the author of "Hospital Pharmacy—a Specialty and a Career" (page 214) asks pharmacy students to give serious thought to investigating their suitability for Hospital Pharmacy.

In "Pharmaceutical Detailing in the Hospital" (page 217) the possibility of hospital detailing becoming another specialty in the medical care field is proposed. The reciprocal advantages to be gained both for hospitals and the pharmaceutical industry emphasize the need for close cooperation between the hospital pharmacist and the hospital detail man. The objectives of a good hospital detailing program are to furnish complete product information and to create sales. A good detail man may not always be a good salesman or a good salesman may not be a good detail man, but several problems are cited, the solution of which may be helpful in attaining the above objectives.

We are especially pleased to present to the readers of THE JOURNAL the photographic story on "The Hospital Pharmacist at Work" (pages 216, 218, 223, 226, 228, 229, 232, and 233). Several hospital pharmacists have been very generous in having some aspects of their work photographed so that we might present them here. We extend our apologies to those who forwarded photographs which could not be used for technical reasons. Our purpose in presenting these sections has been to acquaint students and practitioners in all segments of Pharmacy with facets of hospital practice less commonly encountered in other types of practice.

We are grateful for the cultural contribution by Dr. Alex Berman and George B. Griffenhagen entitled the "History of Hospital Pharmacy." Though we frequently think of Hospital Pharmacy as an entirely new specialty, the authors of this section amply demonstrate not only its existence in centuries past, but also the many resemblances to modern practice.

Finally, we are grateful to the authors, the editorial staff, and to all who contributed their generous assistance in making this special Hospital Pharmacy issue possible. Through THE JOURNAL, *The Bulletin* of the ASHP, our programs, and our services we anticipate The Division of Hospital Pharmacy will become ever more effectively the headquarters for Hospital Pharmacy in America.

HOSPITAL PHARMACY. . .

a Specialty and a Career

The specialized services rendered by this segment of Pharmacy fully justify its classification as a pharmaceutical specialty and make it attractive as a career.

by William H. Briner

WITHOUT a doubt there are few, if any, professions today that offer a student the variety in possible areas of practice that the parent field of Pharmacy extends to those who are studying it. As a result of this, the inescapable question, "What am I going to do with my profession and my life?" must at some time or another in a student's life be examined objectively. What is even more important, the question must be resolved in a manner befitting a problem of such great importance. It is the purpose of this paper to stimulate the thinking of those students of pharmacy who have not yet arrived at a suitable answer to this problem, and to discuss briefly certain aspects of Hospital Pharmacy that are not immediately apparent on gross inspection.

Specialization Needed

Admittedly, formal pharmaceutical education through the years has become more and more complex. The tremendous scope of the lesson content and the ideas to which a present day student in pharmacy must be exposed certainly need not be discussed here. On the other hand, Pharmacy as a profession is not unique in this respect, for some of the other health professions can certainly be considered complex also.

Just as no one physician is expected to know the various intricacies of every facet of medical and surgical practice, no one pharmacist is expected to be an authority in all areas of pharmacy. That this ever-increasing complexity encountered in the health professions will continue can hardly be questioned. It would seem that the most reasonable means of solving the problem is specialization in practice. And, truly, Hospital Pharmacy is just as distinct a specialty in the field of general pharmaceutical practice as is radiology, pathology, or gynecology in the parent field of medicine.

Justification for Specialization

Now what, you might ask, is the justification for classifying Hospital Pharmacy as a specialty? What makes practice in a modern hospital so different from practice in other areas of the profession? Answers to these questions might be phrased in numerous ways, depending upon which of many avenues is followed in giving a reply. In this discussion justifying specialization only two general thoughts will be considered: interprofessional relations and services offered in a modern hospital pharmacy.

Interprofessional Relations—When this subject is considered, it becomes immediately obvious that it deals with an extremely broad subject. And hospital pharmacy is by no means the only area of the practice of pharmacy in which this subject is an important consideration. But, in Hospital Pharmacy, it assumes proportions that are seldom approached in other fields of pharmaceutical endeavor. In a hospital, the pharmacist is the recognized expert in such matters as pharmacology, therapeutics, toxicology, formulation of medicinal agents, and chemistry. As such, he is frequently approached by other professional people in the hospital in much the same manner as a consultant in other specialties, and his opinions in these instances are respected. The consultation aspect of interprofessional relations is the rule rather than the exception, and the benefit of the pharmacist's knowledge is extended to all professions represented in the total hospital operation.

In addition to this, the hospital pharmacist, in many institutions, attends clinical staff meetings and takes a very active part in the discussions which characterize these conferences. Here again, he frequently functions as a consultant, for his remarks might well be considered a mass consultation effort in that all clinical departments of the hospital are represented. The tremendous importance of this type of association of ideas between professional people, at least from the standpoint of Pharmacy, becomes apparent when it is realized that every physician in practice today is in some way affiliated with at least one hospital. Indeed, it seems to be the popular trend, particularly in urban areas, for physicians and groups of physicians to concentrate their practice in or around a hospital or health center. In so doing, they increase many fold their daily contact with Pharmacy and those who practice it in these institutions. That this relationship is mutually beneficial can hardly be questioned.

Unique Services—The second argument for specialization, that of the services offered in a hospital pharmacy, emphasizes that uniqueness of this sphere of pharmaceutical endeavor. In fact, there is no standard pattern, from hospital to hospital, that defines the scope of the services which are offered by a pharmacy department. It is here that the individuality of the hospital pharmacist becomes important, for, with the ever increasing spotlight of attention that is being focused on

WILLIAM H. BRINER, a commissioned officer of the United States Public Health Service, U. S. Department of Health, Education, and Welfare, is staff member of the Pharmaceutical Development Service, Pharmacy Department, Clinical Center, National Institutes of Health. He is a graduate of the School of Pharmacy, Temple University, and of the Hospital Pharmacy Internship of the U. S. Public Health Service Hospital, Baltimore, Md., and is also President of the Maryland Association of Hospital Pharmacists.

pharmacy in hospitals and medical centers, the extent of these services need be bounded only by the professional ability of the pharmacy staff. Certain of these services, of course, are present in varying degrees in all hospital pharmacies, e.g., such services as outpatient prescriptions, filling of nursing unit requests, bulk compounding or manufacturing, and administration. Their universal presence in all hospital pharmacies need not minimize their importance, for, in bulk compounding alone, a great deal of professional knowledge and ability is required to perfect procedures and to utilize properly the expensive equipment involved.

But, there are certain more recent departures from what formerly was considered routine hospital practice. For example, the operation of the central sterile supply service has become a function of the pharmacy department in certain institutions. In a completely different area of endeavor, the field of radiological diagnosis and therapy, the utilization of radioisotopes in medical practice has opened a new frontier to Hospital Pharmacy. The pharmacist's role in this program in the nation's hospitals can be a very active one. Even at this early stage, it is safe to predict that in the future, even in the smaller institutions, radioactive substances will find significant use. It is apparent that, if continuity of responsibility for formulating and dispensing medicinal agents in a hospital is to be maintained, the preparation, control, and dispensing of these materials should be a function of the hospital pharmacy, assuming that a properly trained pharmacist is on the staff.

A final example of a unique type of service is participation in research. Here again, the extent of participation in such programs by the hospital pharmacy will vary considerably in different institutions. But, again, the limits of such activities are governed only by the education and experience of the individual and the facilities for research at hand. The research may consist merely of dispensing a drug and keeping the necessary records of the administration of the drug and a placebo to patients participating in a clinical evaluation of this drug, or perhaps the preparation of injectable dosage forms of a new chemical compound. The important thing is that here Pharmacy is performing a service that is quite unique, a function that in all probability could not be performed as well by an individual who did not have a pharmaceutical background.

Career Opportunities

A logical question at this point might be: "What are the opportunities for careers in Hospital Pharmacy?" When more than a casual investigation of this inquiry is made, there suddenly appears the startling fact that less than one-half the 7000 hospitals in the United States employ hospital pharmacists on a full-time basis. Further, even a hasty perusal of current hospital administration literature will show that truly progressive hospital administrators think that the hospital pharmacist is one of the most important members on the clinical team whose every effort is directed toward service to the patient. If there appears to be an inconsistency in these two statements, it is merely because the specialty of Hospital Pharmacy is still in its infancy.

In so far as immediate monetary gain for professional services rendered is concerned, no valid generalities can be made. The precept in economics concerning supply and demand may well apply. It can be truthfully stated on the other hand that, in many areas, the starting salary of hospital pharmacists is at least equivalent to that of practitioners in other facets of Pharmacy, particularly when one considers the more attractive hours and other benefits which accrue from hospital practice.

Training Programs

This discussion would be somewhat ambiguous if a few words were not devoted to the means of gaining the end, which in this case is the acceptable practice of hospital pharmacy. There are, in general, three different approaches to postgraduate hospital pharmacy training. One type of training program is a hospital pharmacy internship combined with graduate study in a school of pharmacy or university. Upon the completion of this program, a Master of Science degree is granted by the school, and usually a certification by the hospital of successful completion of the internship. Another type of training program is graduate work without an internship. The third program is known as a straight internship. This involves a period of training in a teaching hospital, with experience offered in all phases of Hospital Pharmacy. There are certain advantages and disadvantages in each of these three types of training programs. The May–June, 1955, issue of *The Bulletin* of the American Society of Hospital Pharmacists discusses the various programs at some length, and is worthy of attention.

Hospital Pharmacy is one of the few specialties in pharmacy in which all of the broad base of education afforded a pharmacy student may be utilized, but additional specialized training is usually required.

Does it not seem reasonable that the student in pharmacy should give serious thought to investigating his suitability for hospital pharmacy practice?

BAXTER LABORATORIES—Left to right are Charles F. Dolan, Sales Promotion Manager; Raymond D. Hetterick, Vice President of Sales; Dr. Don Francke of the American Society of Hospital Pharmacists; and George Marks, Baxter-Travenol representative in Syracuse, N.Y. Dr. Francke is presenting membership in A.Ph.A. and A.S.H.P. to George Marks at the Tam O'Shanter Country Club, Niles, Ill., during the recent Baxter Laboratories' national sales conference.

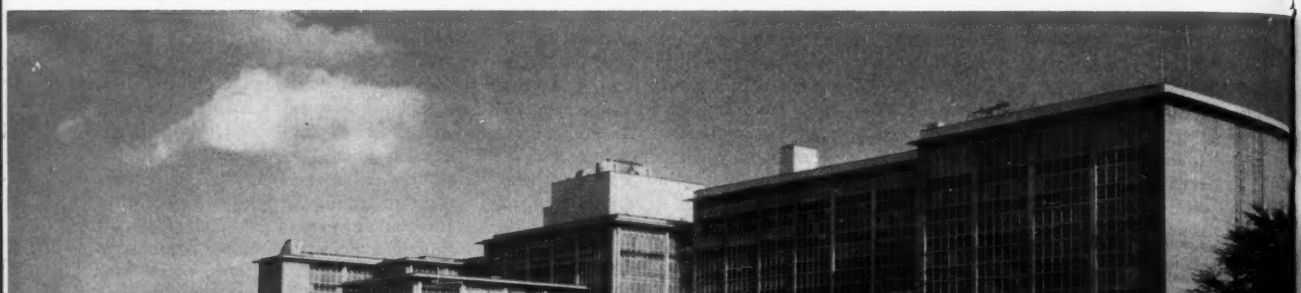
THE 25th anniversary of Baxter Laboratories, Inc., pioneers in the parenteral field, was celebrated during 1956. At the time of their celebration (see photo above), the company enrolled every member of its sales force in both the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists, with the understanding that each member would play an active role in each state and local branch or chapter.

Charles F. Dolan, Sales Promotion Manager, said that his company would do whatever it could to assist in the promotion of professional practice, especially hospital pharmacy.

The contributions made to bulk parenteral therapy by Travenol Laboratories, a subsidiary of Baxter Laboratories, Inc., are significant. Established in 1931 during a period of economic upheaval, the company undertook to supply parenteral solutions so safe that physicians could administer them without fear of reactions.

Organization and Administration

A pictorial review of those aspects of the pharmacist's duties in the hospital environment which differ from the usual retail practice of pharmacy



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The new University of Arkansas Medical Center (1) is typical of the many medical centers which are springing up across the nation. Its dedication on April 25th to better health through medical education, patient care, and research marks a significant advance for the health care of the people of the State of Arkansas. Pharmacists are assuming increasingly important positions in such hospitals by being responsible for the total drug program and its relation to all aspects of hospital operation. Their responsibilities extend beyond prescription filling and the other conventional duties ordinarily encountered in the practice of pharmacy. They frequently occupy administrative positions as department heads in small as well as large institutions. The position occupied by the Treasurer of the American Society of Hospital Pharmacists, Sister Mary Berenice (2) is typical of those occupied by pharmacists in hospitals supported by religious groups. She has charge of the pharmacy service for the St. Mary's group of hospitals in St. Louis. Responsible hospital pharmacy positions are also available in the government hospitals as typified by Chief Pharmacist Melvin E. Monteith (3) at the Buffalo VA Hospital.

Continued on page 218

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Detailing in the Hospital

by Paul F. Parker

The hospital detail man as a specialist is a relative newcomer to the hospital scene. Until recently it was customary for pharmaceutical companies to assign a single representative to call upon private practitioners of medicine, pharmacists in retail and hospital practice, wholesalers, and others controlling the distribution of drug products within a given area. Some of these men found that calling on the different types of customers required different techniques and different approaches. As a result, some detail men became particularly adept at working in the hospital environment. Later some companies, recognizing the value of having specialized detail men for hospitals, selected and trained individuals specifically for this type of work. Today many hospitals, particularly those located in the same area as a large medical center, have men specialized in hospital detailing call upon them regularly. A more recent innovation among pharmaceutical manufacturers has been the establishment of hospital sales departments to furnish specialized supervision for the detail men who call upon hospitals. This fits the general pattern of increased specialization.

Better Relations Needed

The specialized hospital representative has been of tremendous importance, both to hospitals and to the pharmaceutical industry. He has helped to provide a better type of drug information service for an increasingly complex group of medications which are used in hospitals. He also has created an estimated 25% to 30% of the total market for prescription-legend drugs.

PAUL F. PARKER became Director of the Division of Hospital Pharmacy and President of the American Society of Hospital Pharmacists during 1956. From 1952 to 1956, Mr. Parker was Chief Pharmacist of the University of Chicago Clinics. Prior to 1952, he was Assistant to the Chief Pharmacist of the University of Michigan Hospital and was a member of the Editorial Staff of *The Bulletin* of the A.S.H.P. During his very active career in Hospital Pharmacy, he has served as Vice President of the Illinois Society of Hospital Pharmacists and Secretary of the Chicago Branch of the A.Ph.A.

Yet the need for a better relationship between the hospital pharmacist and the pharmaceutical detail man is acute because of the opportunity that exists for the improvement of drug information services to the professional staffs in hospitals and also because of the high potential of the hospital drug market.

The present relationship between hospital pharmacists and hospital representatives is characterized by criticism from industry of the restrictions and limitations which are placed upon the detail men. Also, hospital pharmacists are sometimes critical of all hospital detail men, but admit that the problem is caused largely by representatives who have multiple-type assignments and are not trained in the special requirements for hospital detailing.

Restrictions on Detailing

There are rules in effect in hospitals which vary considerably. Restrictions and limitations such as the following do exist to a significant degree: The detailist should visit no hospital departments other than the pharmacy, except as directed by the chief pharmacist. The detail man may call at the pharmacy department only on one or two specified days each week. Each representative is requested to leave all literature at his disposal in the pharmacy department for further distribution Samples may only be left in the pharmacy department. Interviews with residents, interns, nurses, and laboratory personnel are forbidden. No displays or exhibits are allowed in the hospital at any time. These rules may be somewhat less stringent for some hospitals, but all of these rules are actually in effect in a significant number of hospitals. An example of the policy concerning detail men in a specific hospital may be quoted:

"The responsibility for interviewing all pharmaceutical detail men has been assigned to the chief pharmacist by the Pharmacy and Therapeutics Committee with the approval of the Medical Advisory Staff. This rule prevents the widespread, indiscriminate detailing of the hospital staff by pharmaceutical firms. It allows the chief pharmacist to send detail men with selected new drugs or new dosage forms to interested members of the staff for consideration. After consulting the chief pharmacist, detail men may, at his recommendation, contact indicated members of the hospital staff with specified products. Contacts other than by this method are excluded."

Some pharmacists argue that detail men abuse hospital privileges, waste personnel time, use pressure selling techniques, distribute samples to lay personnel, etc. Actually there has been a wide variation, both in the way professional services have been rendered by the different pharmaceutical companies and the way their services have been received. Many detailists have misinterpreted the purpose of their mission in the hospital, and others have become overenthusiastic about selling their products. This may have been due to lack of training, improper training, misinterpretation of the company's policy, or an individual representative's nonconformity to the rules established by the company. As a result, many hospitals have established arbitrary rules which limit detailing, prohibit it completely, do not allow displays and exhibits, or establish times and circumstances for the representative's interview which are unreasonable.

Cooperation Between Pharmacist and Detail Man

Certainly no one would question the right of the hospital to have rules and regulations for detail men, salesman, or any other persons who come on their premises. Yet many worth-while services are achieved for the hospital and the patient through close cooperation between the hospital pharmacist and the pharmaceutical representative. It is entirely possible that the total relationship between hospitals and the pharmaceutical industry could be guided by a harmonious working relationship between hospital pharmacists and detail men. If this were the case, the need for objective planning would become of paramount importance.

Industry Benefits Hospitals

Hospitals receive benefits, both directly and indirectly, from the pharmaceutical industry. The availability of drugs for treatment, diagnosis, and prevention of disease has been more significant in the improvement of patient welfare than any other single factor. Contagious diseases have decreased almost to the point of extinction. Drug advances have simplified diagnostic methods in many instances so as to require almost a "cookbook style procedure." Reduction in mortality rates and increases in life expectancy have been so phenomenal that statistics today are outdated tomorrow.

The pharmaceutical industry has made available the greatest drug advancements that American technical and scientific ingenuity can provide. Medical advances of the future must come through research and the con-

Interprofessional Activities

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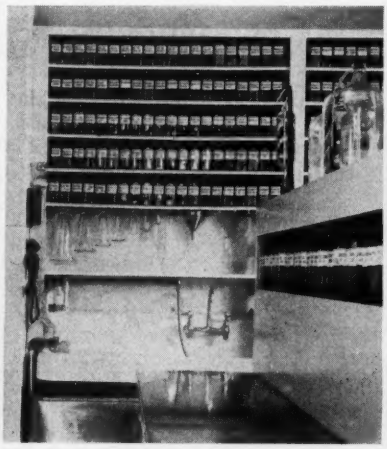

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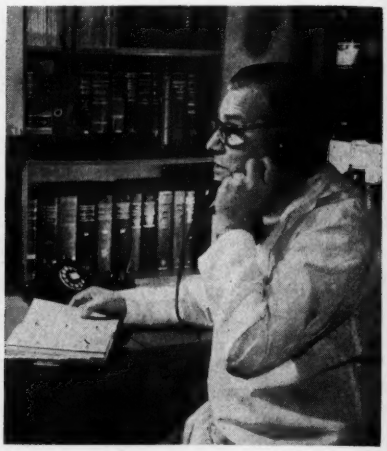

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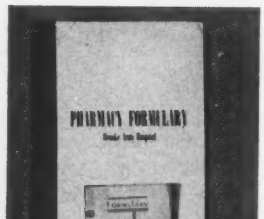

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Chief Pharmacist Sister Mary Emmanuel at the St. Alexius Hospital in Bismarck, North Dakota (9) serves as secretary of the Pharmacy and Therapeutics Committee. This committee is chosen from the several divisions of the medical staff. Its purposes are: to develop a formulary (7, 8) of accepted drugs for use in the hospital; to serve as an advisory group to the hospital pharmacist on matters pertaining to the choice of drugs to be stocked; to evaluate clinical data concerning drugs requested for use in the hospital; to add to and to delete from the list of drugs accepted for use in the hospital; to achieve drug standardization (5) by preventing unnecessary duplication and to make recommendations concerning drugs to be stocked. Hospital pharmacists frequently impart information to nurses (4) and physicians (6). *Continued on page 223*

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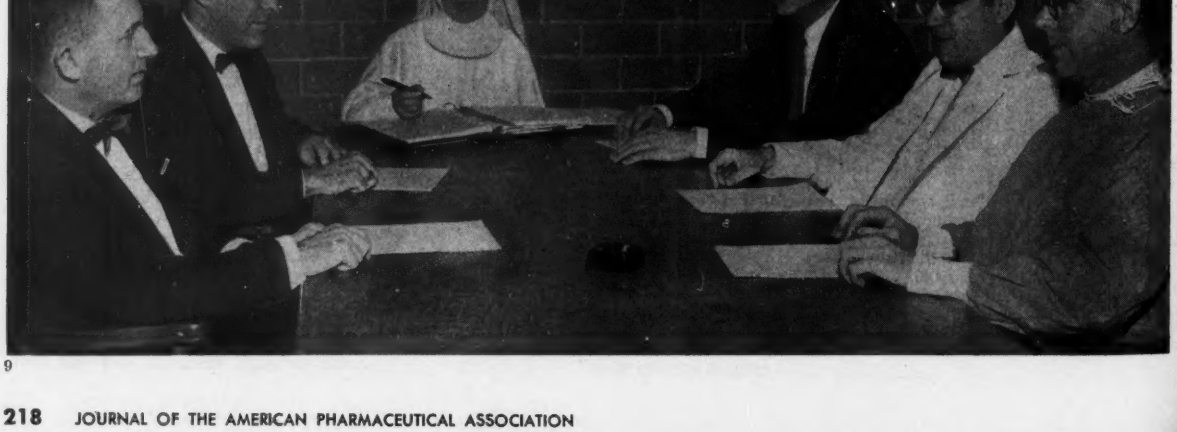

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tinued and expanded efforts by all people concerned with the field of health. Both public and private money invested in medical research is on the increase, but the increased investment in research by the pharmaceutical industry is significant for the hospital in a number of ways. It contributes indirectly to the welfare of the patient in whom the hospital is so vitally interested. It lessens the burden on the hospital by decreasing patient stay; by making investment in expensive equipment that has been made obsolete by improved drug therapy less necessary; by decreasing personnel time; and last, but by no means least, by providing a strong incentive for well qualified medical scientists to remain on the hospital staff. Many outstanding medical scientists have chosen the hospital environment over much more lucrative endeavors because of the opportunity to do research in the hospital, much of the money for which was provided by the pharmaceutical industry.

Hospitals Benefit Industry

Now consider some of the advantages of hospitals to the industry. The steadily increasing advances in new and improved pharmaceuticals have only been possible because of the proportionately improved and expanded market. Even though an estimated 25% to 30% of the total market for prescription legend drugs is presently provided by hospitals, it is reasonable that in the next few years the potential for increase in the market for pharmaceuticals in hospitals will be greater than in any other outlet. This increase will be provided by continued expansion of hospital facilities, by continued broadening of the scope of hospital responsibilities, and by the trend to more potent and dangerous drugs that should be under carefully controlled conditions. The hospital, at one stage or another, is responsible for training and educating a large number and a wide variety of the members of the professional health groups. Though the drug specification responsibilities of these groups are relatively limited during their training, they are the people who will establish the specifications tomorrow. The training period furnishes a unique opportunity to influence their opinion and their appreciation of the pharmaceutical profession and the products of any particular pharmaceutical company. The hospital as a center for clinical research is also important for the pharmaceutical industry. As new drugs become increasingly potent and dangerous, it is only reasonable to expect, in the interest of the safety of the public, that limitations and justifications for their release would become more stringent, thereby increasing the need for clinical research in a controlled environment such as the hospital provides. Since the better qualified investigators generally are located in hospitals, there is no reason to believe that the hospital would not continue to be the center for clinical research on new drugs.

Objectivity in Detailing Needed

The scope of responsibility of the hospital as an institution continues to broaden beyond a center for the treatment and diagnosis of disease. Many people concerned with the broader aspects of health now consider the hospital as a community force for medical care. In this expanded role, the hospital becomes so important that drug information resources and drug market potential are factors which must be considered as objectively as possible.

It would appear that one of the reasons for the apparent lack of objectivity in the field of hospital detailing is that detailing has never been considered more than an indirect sales technique. The methods, personnel, training, supervision, and policies relative to detailing in hospitals have developed largely on the basis of field experiences. These experiences led to the use of specialized techniques. The specialized techniques led to the procurement of special personnel, which in turn led to the need for special training and supervision. Now that there are executive personnel in supervisory positions related to hospital detailing, thought is being given to the reasons why this all happened. It was perfectly logical that a new type of responsibility should have developed in this manner, but industry should now consider the hospital's need for drug information and their responsibility to provide it. Hospital pharmacy and the pharmaceutical industry should now foster working relationships which demonstrate their unity to the other members of the health profession.

Functions of the Hospital Detail Man

From a hospital viewpoint, the functions of the hospital detail man could be to provide drug information for the hospital's professional staffs and to create a market for drug products. These functions are closely related to the hospital pharmacist's responsibilities for organizing programs to disseminate drug information to the hospital's professional staffs, for establishing drug specifications for the hospital, and in some instances for buying the drugs. Since the chief concern here is with detailing from a hospital viewpoint, a drug information program for the pharmacy department will be reviewed first; then an attempt will be made to adapt the duties and responsibilities of the detail man to that program.

Drug Information Programs

The Minimum Standard for Pharmacies in Hospitals states that it is the responsibility of the pharmacist to provide specifications both as to quality and source for the purchase of all drugs, chemicals, antibiotics, biologicals, and pharmaceutical preparations used in the treatment of patients. The Standard also delineates the responsibility of the hospital pharmacist to furnish information to physicians, interns, and nurses. Is this simply a passive responsibility for which the pharmacist is only concerned if the physician, intern, or nurse comes to him for information, or is it his responsibility, to have a progressive drug information program, without being asked, in the department which provides information on all aspects of drug therapy and usage? The effectiveness of the latter procedure would be measured in terms of the way physicians prescribe and use drugs in that hospital, at least as far as this was influenced by having drug information. Its effectiveness would also be measured by what the interns learn about drug usage and the precautions the nurses take in administering drugs.

Few hospital pharmacists would ever consider themselves completely qualified to provide all the ramifications of a drug information program such as the one described above. Yet it is entirely possible that hospital pharmacists working cooperatively with well trained hospital detail men would achieve remarkable changes in drug usage. One does not need to look far in a hospital to observe the need for drug information and objectivity in drug usage. Even with an item as well established as penicillin, many physicians, interns, and nurses do not appreciate the advantages and limitations of each type. The abuse of use of the broad spectrum antibiotics, for example, has been described by some members of the medical profession as "substituting antibiotics for thinking."

The pharmacist and detail man might cooperate first to be sure that there was a complete file in the pharmacy with all available information, both pharmaceutical and clinical, about every product and dosage form. The detail man should do more than leave a brochure or catalogue on the pharmacist's desk. The information should be in a file which contains information about all drugs and in such a manner that it is readily available. Even if the pharmacist did not have sufficient time, or was not inclined to keep such a detailed file, the detail man could frequently be helpful by tactfully encouraging him to do so. Seeing that complete information is readily available in the pharmacy should be just as important as creating a market for the product.

Regular brochures or newsletters from the pharmacy department are very helpful to the hospital medical and nursing staffs. These can very conveniently be developed cooperatively between the pharmacist and the detail man. Such regularly circularized publications are excellent for giving information on new products and dosage forms. There is, again, more to the job than leaving an advertisement on the pharmacist's desk. Such material must be presented in a consistent manner and impartial to the extent of presenting a fair story with relation to other available products. In some departments that are understaffed or overworked, it might be conceivable that the detail man would volunteer to assist in the actual preparation of such a hospital communication.

More and more, hospital pharmacists are participating in in-service training programs for graduate nursing staffs and interns. Upon such occasions the pharmacists is required to spend many hours working up a lecture on a certain group of drug products. Actually the detail man usually knows far more about a specific product than does the pharmacist and is trained to present the salient points in a clear and concise manner. The only problem is that the detail man is also trained to work a "sales pitch" so uniquely into the clinical and scientific information that he could not be given the opportunity to take a lecture assignment. There is also the disadvantage that a lecture on some special drug group would encompass products from several firms. But, an advantage can be gained for the pharmaceutical industry by having their representatives accepted and wanted for group hospital lectures. It seems that they could be trained and provided with material to overcome these simple problems.

Probably few of us realize the number of problems and errors that occur daily in hospitals relative to drug administration. The shortage of nursing personnel, variations in pharmaceutical packaging, the use of varying systems of weights and measures, the confusion created by the use of trade and generic nomenclature, the differences in labels, and a number of other items which are either directly or indirectly the responsibility of the pharmacy have contributed to the complexity of this problem. The attention and emphasis that has recently been given to the individualized parenteral dosage form is one example of efforts being made to correct these contributing factors. No attempt will be made to enumerate the advantages of this particular type of product here, but its value was demonstrated and developed by hospital pharmacists and detail men working closely together. The recent standardization by a number of major manufacturers in the use of the Metric System further illustrates an attempt to help correct these problems. This field still has many areas for improvement. Few studies, for instance, are made to determine why errors are made in administering medications and how they could be prevented

Replying to the numerous telephone calls for drug information which are received by the pharmacy department has long been recognized by hospital pharmacists as a major duty and responsibility. It is interesting to visit various hospital pharmacies and note the way in which such calls are handled. They all too frequently leave much to be desired. Detail men and hospital pharmacists could achieve many mutual advantages by attacking this problem more cooperatively. Systems could be devised to furnish information quickly. It would be helpful also to assist in training staff pharmacists to use the telephone, as well as provide them with the information. This function of the pharmacy is usually "sandwiched" into other work assignments, but the development of a progressive telephone information program by the hospital pharmacist with the cooperative assistance of the detailist could lead to expanded opportunities for both. Incidentally, the department which gives the best information gets the most calls, and a call to the pharmacy may be infinitely better than detailing the physician, because it could give him the information *when* he wants it.

Pitfalls for Representatives

One of the outstanding advantages of having a specialized hospital detail man is that he gets to know the right person to see in each hospital about each type of product. If given the opportunity, the pharmacist can be of valuable assistance to the detail man by telling him who these people are. This is the area that causes the greatest problem in hospital detailing. In the author's opinion, this is one of the greatest mistakes made by the industry relative to hospital detailing. A detailist who sees the wrong man about the wrong product at the wrong time can frequently cause the entire detailing program in a hospital to become restricted or to be jeopardized completely.

Another area of hospital operation that presents particularly perplexing problems to both the detailist and the pharmacist is the need for standardization of materials and procedures. Traditionally the house staff has faced the problem of attempting to implement the personal desires of each physician in the treatment and care of his patients. Many complicating factors such as hospital economy, the number of drugs available, minor differences in drug formulations, varying dosage forms, etc., have made this job increasingly difficult. Much has been accomplished through hospital committees and various other forms of medical staff government to standardize materials and procedures and yet not interfere with the physician's professional prerogatives. Frequently, the activities of the detailist interfere with the hospital's standardization program, quite without his knowledge. Except in a general way, the detail man cannot be trained to avoid these pitfalls in a given hospital, but the specialized hospital representative can avoid hindering the hospital's overall standardization program, particularly if he has a long term assignment and if he works closely with the pharmacist and other full-time members of the staff.

As a general rule, hospital personnel think of the detail man as a salesman. Though many specialized representatives are making significant and worthwhile contributions toward rational drug therapy programs in hospitals, both the acceptance and usefulness of these programs are hindered by the limitations which are imposed by the overall objectives of detailing.

There is a distinct need for the pharmaceutical industry to establish detailing objectives upon the basis of the hospital's need, such as for providing accurate and complete clinical and scientific drug data in a way that it contributes most to patient welfare without interfering with the hospital's policy of operation. Furthermore, the detailist can be encouraged and provided with materials to assist the hospital in developing its own programs to accomplish common objectives. Secondly, the industry could raise the standards of hospital detailing by furnishing more specialized personnel. Hospital detail men could well be evaluated in terms of their acceptance and reputation in the hospitals of their territory by the *way* in which the company's products are used, and the contributions he has made to the pharmacy's drug information program.

The hospital pharmacist and the specialized representative can cooperatively build a reputation and an acceptance for one another with the medical and nursing staffs of any hospital. Detailing positions in the hospital can and should attract well qualified and outstanding applicants because the opportunity exists to make it a specialty of the pharmaceutical profession. The pharmaceutical industry can gain a wider dissemination of information and greater market for its products. But most important, the detail man and the hospital pharmacist can cooperatively become more valuable professional members of the hospital team.

Professional services, such as supplying drug information and compounding, are made more readily available to hospitals through cooperation between

Retail Pharmacists and the Hospital

by Walter M. Frazier / and Robert E. Lawson

UNTIL recent years, both the need for and the advantages of, professional pharmacy service in hospitals have been poorly recognized and little understood, but larger hospitals and medical centers now fully utilize pharmaceutical service and coordinate it with the total care of the patient. The increased use of hospitalization has multiplied the use of drugs, and modern medical therapy requires more drugs per patient.

The public has a new interest in hospitals, and with the aid provided by the Hill-Burton Act, hospitals have been built in smaller cities and communities which previously did not have hospital service. In the total of 7,000 hospitals in the United States, about 2,000 have a capacity of less than 50 beds.

Good patient care is the essential objective of every community hospital, and drug therapy plays the same role in the recovery of the patient regardless of the size of the hospital. The fact that many small hospitals lack pharmacy service has been publicized in hospital and pharmaceutical journals, and it is recognized that this constitutes a challenge to our profession.

The retail pharmacist of a community is in an advantageous position to cooperate with the local hospital by providing a part-time service which he is legally qualified and professionally equipped to offer. He may find it possible to spend an hour or two a day at the hospital or a few hours several days a week. Some of the part-time service could be performed in his own store. Certain pharmaceutical responsibilities, in addition to prescription service, offer important opportunities for the retail pharmacist to assist the hospital.

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Information Service

Every day in the hospital there are questions about drugs. The local retail pharmacist should encourage the hospital staff to call his pharmacy whenever information is required. He is acquainted with standard reference texts which are ideally suited to provide the hospital staff with necessary information. A pharmaceutical library can be established at the hospital to include literature obtained from journals and periodicals and also reprints and literature supplied by representatives of pharmaceutical manufacturers. This information, to be kept current by the pharmacist, should be located in a readily accessible area of the hospital.

Dispensing

Although methods of distribution of drugs in the hospital are different from dispensing in a retail pharmacy, the retail pharmacist is able to advise the hospital about adequate labeling, legal requirements, necessary safeguards for handling drugs, and promotion of maximum safety for the patient. By cooperating with the nursing service, the pharmacist can develop systems of dispensing which will provide adequate supply of "stock" drugs for nursing stations during his scheduled service hours at the hospital once or twice a week.

Source of Supply

Particularly where wholesale pharmacy service is not available, the retail pharmacy can supply drugs for the hospital. The pharmacist is in a position to supplement the hospital's drug stock by delivery of some items rarely called for in the hospital, or a new item which is not yet stocked by the hospital. Since the pharmacist is always available at his store, he would be able to deliver any prescription requiring compounding. Emergency service by the retail pharmacist for the hospital patient would be just as important as the emergency service the pharmacy occasionally supplies for the patient in the home.

Management

The retail pharmacist is familiar with sound business principles required in the operation of his store. He can assist the hospital by establishing, with the approval of the hospital administrator, these same principles in the hospital pharmacy. By having occasional conferences with the hospital administrator or by attending meetings of hospital department heads, he can help establish pharmacy policies which are integrated with overall hospital policy. The pharmacist is best qualified to develop a standardized pricing file for drugs.

Professional Duties

The Pharmacy and Therapeutics Committee of the medical staff decides which drugs will be approved as standard stock in the Hospital Pharmacy. The pharmacist should attend these meetings and serve as Secretary of the Committee. In this role the pharmacist is able to provide valuable assistance as a consultant on drugs and pharmaceutical information.

Because of the pharmacist's extensive background in Materia Medica and pharmacology he may be called upon to meet with the nursing staff to present lectures or lead discussions on the newer concepts of drug therapy or otherwise participate in educational activities within the hospital.

Hospital Compounding

During the period which the pharmacist spends at the hospital he may be able to compound some of the stock products which are needed by the various departments. This work may include such projects as preparing thermometer solution, irrigating solutions, and alcoholic rubbing lotions. He can supervise the packaging of drugs from bulk stock into a container of suitable size for dispensing and distribution of some of the less expensive, commonly used items to each of the nursing stations. Utilization of this practice will assure adequate labeling and should result in gaining for the hospital the advantages of bulk purchases and quantity discounts.

Responsibility for Condition of Drugs

Upon a consulting basis or by providing regular visits to the hospital the pharmacist should make a scheduled tour of all departments where drugs are kept. Even after drugs are dispensed to the nursing stations, the pharmacist should assume some responsibility for their condition. He should advise nursing personnel as to the correct manner of storing these drugs, and he should remove any drugs which have deteriorated, are of doubtful quality, or have exceeded the expiration date. He could help establish normal levels of supplies in these areas so that the nurse would not be understocked or overstocked.

Dangerous Drugs Control

The pharmacist is best qualified to assume the responsibility to maintain the necessary records, procurement forms, controls, and inventories to properly account for narcotics, barbiturates, and ethyl alcohol in compliance with government regulations. The hospital administrator and director of nursing service will welcome expert advice and assistance in these matters. These records should be of such simplicity that they may be kept easily by another person during the pharmacist's absence and will require minimal time on his part to check the records during his regular visits to the hospital.

Emergency Drugs

The pharmacist is well qualified to initiate a program of providing an adequate supply of emergency drugs in certain locations of the hospital. These drugs should be located in such a manner as to be found easily and readily accessible. A system should be devised to replace these drugs at the earliest possible time to assure an adequate supply at all times for emergency uses. An antidote cabinet should be supplied and stocked in the emergency room to facilitate the immediate treatment of accidental poisonings. It may be desirable to supply other special stocks for routine use in the surgical and obstetrical departments.

Storage

In a hospital which does not employ a pharmacist it becomes necessary to initiate a system for proper storage and rotation of stock. By his knowledge of drugs and chemicals, the pharmacist can best advise the hospital on these matters. He can establish a control system for dated biologicals and see to it that adverse temperatures and light do not deteriorate the materials on hand. He can advise the nursing staff and the medical staff about the stability and expiration dates of antibiotics. Proper arrangement of stock in the pharmacy and inventory control are factors well known to every practicing pharmacist. His experience can be used by the hospital.

The examples mentioned above represent some of the services needed by the community hospital. There are numerous individual opportunities which occur daily in every hospital. The retail pharmacist who is interested in extending his professional activities should consider his importance to the community hospital that lacks the benefit of pharmacy service. To accomplish this job in an efficient manner the pharmacist should familiarize himself with the published literature about the practice of hospital pharmacy. The retail pharmacist could benefit by visiting several outstanding hospital pharmacies in an adjacent area to learn how they are operated. The retail pharmacist will find that there is a great deal of difference between retail practice and hospital pharmacy. Many drugs used in the hospital are not adaptable for use in the home. The frequency of use of many drugs is quite different in the hospital compared with frequency of use in private practice. Few retail pharmacists have calls to dispense various biologicals, injectables, and diagnostic agents which are commonly used in even the smallest hospitals. It is therefore important for the pharmacist to review these elements of pharmacy.

The retail pharmacist should be sufficiently prepared before visiting the hospital administrator to explore the possibilities of an arrangement whereby professional pharmacy service could be acquired by the hospital and whereby the pharmacist could enlarge his professional activities. The agreement between the hospital and the retail pharmacist should be mutually advantageous. Whatever arrangement is established, the community, the hospital, and the pharmacist will each benefit considerably by the program.

The pharmacist, as an important member of the public health team has the opportunity as well as an obligation to aid the community hospital by supplying adequate pharmaceutical service

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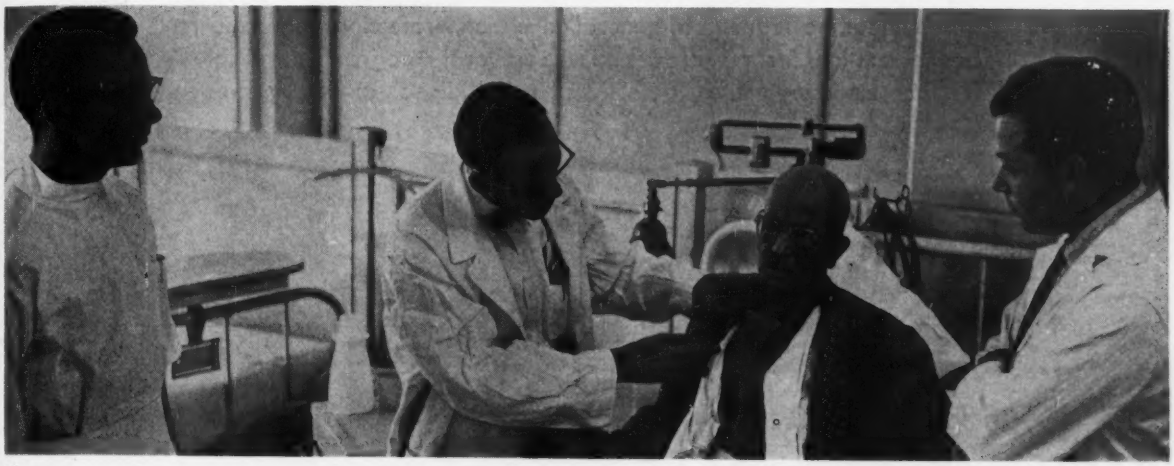
Patient Care



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Patient care is uppermost in the mind of the hospital pharmacist as he assumes the responsibilities depicted on this page. The above photo (10) shows a hospital pharmacy intern on the patient rounds with staff physicians at the Veterans Administration Center in Los Angeles. Members of the other health professions (11) who are taught by hospital pharmacists include student nurses, graduate nurses, medical interns, and hospital administration students. The central sterile supply department (13) is being placed more frequently under the supervision of a pharmacist because he has the necessary background in bacteriology and related sciences. This department can be combined with the pharmacy department because of the advantage of dual use of equipment and personnel to provide around-the-clock service. The representative (12) of the pharmaceutical manufacturer is welcomed by the hospital pharmacist because both are jointly responsible for supplying drug information. Inventory control (14) is another major responsibility. *Continued on page 226*

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The objectives of education for Hospital Pharmacy practice are clearly stated under the headings of general education, professional education, and education for research, and the several programs available for accomplishing these objectives are outlined and compared.

Education and Internships in Hos

THE dramatic emergence of hospital pharmacy as a specialty of great importance is one of the most significant events in pharmacy today. This significance is aptly expressed in the General Report of the Pharmaceutical Survey where it states:[1]

"The pharmacist engaged in hospital practice holds a most, if not the most, strategic and important position in the entire field of professional practice. By virtue of the environment in which he practices, demands are made upon his professional and personal abilities, which indeed represent a challenge. The proper discharge of his duties, as well as his success in what is a vital public relations responsibility, affect not only his hospital, its patients, and staff, but reflect sharply on the profession outside the hospital's walls."

A high level of pharmacy service is essential for good patient care and is of great significance to the medical and allied staffs as well as to the administrative staff of the hospital. In fact, pharmacy is recognized as one of the essential professional services by the Joint Commission on Accreditation of Hospitals.[2] The significance of pharmacy service to patients is emphasized by McGibony who states that "the pharmacy is . . . the most extensively used therapeutic facility of the hospital."[3]

Letourneau reflects the attitude of the modern physician when he says:[4]

"The partnership of these professions [medicine and nursing] with the pharmacist, once shunned, is now more than welcome, it is sought for eagerly. The pharmacist in today's hospital is a partner on the professional staff who takes rank and precedence equal to medicine, nursing, physical therapy, administration and dietetics, to mention but a few. He has finally assumed his rightful position as a member of the hospital team by asserting his claim to recognition. He has knowledge that no one else can provide, and has an important contribution to make to the welfare of the patient."

In today's hospital the pharmacist is, as Cunningham indicates,[5] " . . . an assistant to the administrator in the management of an important revenue producing department of the hospital." These statements emphasize the importance of the pharmacist within the hospital.

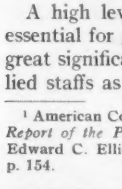
In addition, hospital pharmacy has great significance to the profession as a whole. Hospital pharmacy represents within the profession, a group of practitioners who devote a high proportion of their time to professional activities. Hospital pharmacists practice in an environment devoted exclusively to the care of the sick; they work in very close professional contact with members of the medical and allied professions; and they utilize daily the basic scientific principles and technical skills which form the basis of their professional education.

Equally important, the hospital pharmacist is seldom confronted with the difficult choice of whether to emphasize professional or business activity, a choice which too often must be made by his colleague in retail practice. While he must devote attention to the business management of the department, the hospital pharmacist does this in cooperation with the administrator and the business office of the hospital and as a result it is, in effect, a shared responsibility. Furthermore, he is in a more objectively independent position in his relations with the medical staff than is possible in other types of pharmacy practice.

The dilemma of many of today's pharmacy practitioners is emphasized by McCormack who points out that:[6]

"The young pharmacist today is trained as a professional; his interests and ability for scientific research are carefully developed, preparing him for the laboratory work required by hospitals, schools, and pharmaceutical companies. Yet few pharmacists see themselves in this position. Most expect to become proprie-

[1] American Council on Education: *The General Report of the Pharmaceutical Survey 1946–1949*, Edward C. Elliott, Director, Washington, D.C., p. 154.



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Hospital Pharmacy

by Don E. Francke

tors, with the status of independent professionals, thus fusing the two systems and avoiding a final choice. In this process the entrepreneurial drive is modified by criticism of big business and by retreat from highly competitive circumstances; the professional drive is blunted by subordinating a service goal to individual achievement for its own sake. At best, this adjustment is not capable of providing the satisfactions of either pole."

Fortunately, hospital pharmacists are seldom in a position where this conflict between professional and business activities is necessary. This fact is one of utmost importance to the profession and becomes more significant as the percentage of ethical pharmaceuticals distributed through hospitals continues to rise until now it is approximately one-third of the total sales.

Is Hospital Pharmacy Different?

Is hospital pharmacy so different that its educational requirements merit special discussion? Why isn't the educational background provided to other pract tioners of pharmacy adequate for hospital pharmacists? There are both qualitative and quantitative answers to these questions. Basically, hospital pharmacists have long felt the need for a more adequate education than has been offered by colleges of pharmacy. They have felt this need because their day to day activities in hospital practice exposed points of weakness which could have been avoided by a more thorough professional education. This need was clearly stated over 35 years ago by Austin of the Cincinnati General Hospital in an address delivered before a Joint Session of the Section of Education and Legislation, the American Conference of Pharmaceutical Faculties, and the National Association of Boards of Pharmacy.[7] Thus the main request of hospital pharmacists during the course of many years has been principally for a more adequate professional education.[8] Beyond this, their requests have been limited to the addition of one or two special courses, such as a course in hospital pharmacy administration or management.

The needs of a better educational background for hospital pharmacists are both qualitative and quantitative. For example, when he receives a hundred or more calls a week from members of the medical and allied staffs, requesting all types of information on drugs and drug preparations, he obviously has to have at his command a great deal of information and an understanding of it.

When several physicians a day visit his office to discuss a special formulation, a new drug or to request other information, the pharmacist requires a broad background in many basic sciences to be of service.

When he meets with six or twelve physicians and serves as secretary of the Pharmacy and Therapeutics Committee, his need for a thorough background in the biological sciences, especially in pharmacology, is evident.

When he is requested by physicians to develop special formulas and to prepare them in bulk quantities, he requires a thorough knowledge of the principles of product formulation, manufacturing, and control. When sterile preparations must be prepared, his knowledge of the principles and techniques involved must be broad.

It is principally because of the constantly recurring demands upon him, the variety of requests received, the opportunity to utilize daily more educational training than he has, the special environment in which he practices, and the close relationship he has with the medical and allied staff, that the hospital pharmacist feels the objectives of education for hospital practice could be improved vastly.

Objectives of Education

What then should be the objectives of education for hospital pharmacy practice? These may be summarized under three headings—general education, professional education, and education for research.

General Education

The general or liberal education of a student is influenced to a great extent by his selection of subjects in high school and in his pre-pharmacy elections. Thus schools of pharmacy can perhaps best assure that practicing pharmacists will have a broad liberal education through the careful selection of students. Throughout the student's professional program faculty members can do much to develop his cultural background. In addition, some opportunity for cultural electives is provided in the professional curriculum.

The objectives of general education in a professional school have been stated concisely by Jenkins.[9] General education should lead to abilities such as:

"1. To read with understanding and to express ideas accurately and clearly in oral and written English.

"2. To read, understand, and think intelligently about contemporary social and economic problems.

"3. To understand the historical development of American institutions and international relations.

"4. To appreciate the chief forms of culture as evidenced in literature, music, and the fine arts.

"5. To understand human behavior so that sound personal adjustments can be made and problems of human relationships may be handled intelligently.

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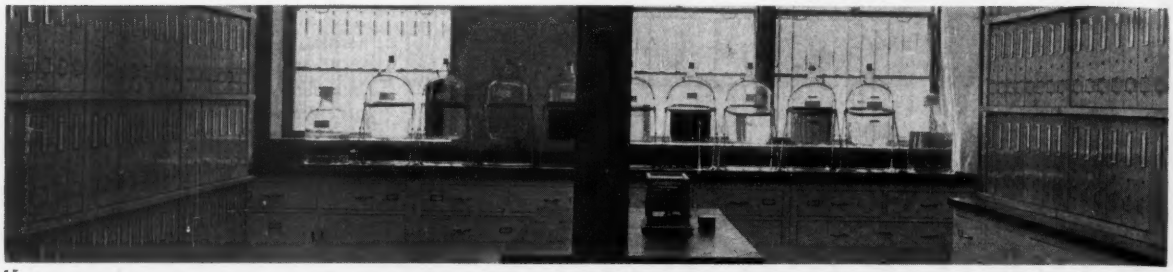
Hospital Dispensing



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The large volume of prescriptions dispensed in the average hospital in the United States is several times the national average for other types of pharmacies. This vast flow of work necessitates the establishment of production line techniques which are unique to hospital pharmacy. The equipment used must also frequently be custom designed to take care of the work load which varies somewhat in its requirements from one hospital to another. When special preparations not commercially available are requested by the hospital staff, the pharmacist must frequently devise new formulations, and this sometimes requires research in the pharmaceutical laboratory (16, 18) as well as collaboration with members of the medical staff. On this page are illustrated typical equipment and facilities found in hospital pharmacies, including adequate cold storage space for biologicals (17), handy five-gallon dispensing units (15), special scale for measuring large quantities of tablets or capsules by weight (19), and the three major types of fixtures used in hospital pharmacies—open shelving, drawers, and "Schwartz" type (15, 19).

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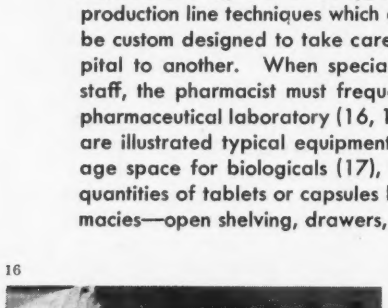

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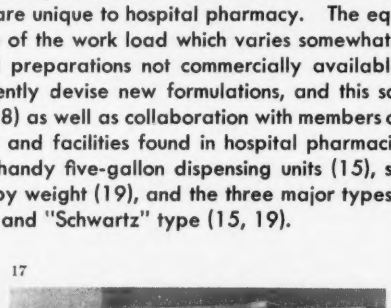

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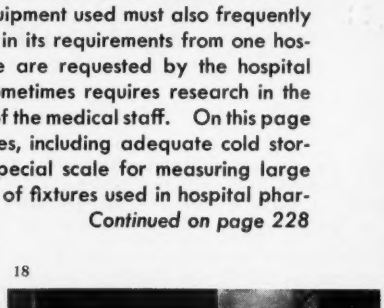

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"6. To understand the basic principles of science and technology and their role in the modern world.
"7. To understand the necessity of maintaining personal and community physical and mental health.
"8. To understand and appreciate the ethical and social concepts necessary for the satisfying of a personal and professional philosphy of life."

To these it is important to add:

9. To bring to the student an appreciation of his role as a citizen of the community, the nation, and the world.
10. To help the student appreciate the social, cultural, and scientific contributions of peoples of all nations and creeds.

Professional Education

The prime objective of professional education in hospital pharmacy should be to prepare the student to practice on a high professional level in a health center environment, working in intimate association with practitioners of the other health professions, where the qualitative and quantitative demands for essentially all services of pharmacy and closely related sciences are repetitive and unusually great.

More specifically, the objectives of professional education for hospital pharmacy practice should include such considerations as:

1. Selecting students with aptitude and motivation toward the practice of pharmacy in hospitals.
2. Preparing students with a firm knowledge of the principles and theory involved in the collection, standardization, preservation, procurement, product formulation, and the compounding and dispensing of sterile and nonsterile preparations of drugs used in the diagnosis, prevention, and treatment of disease.
3. Providing students with good background in the biological sciences including anatomy, physiology, pathology, biological chemistry, microbiology, and with especially strong courses in pharmacology.
4. Acquainting students with the literature of pharmacy and allied sciences and developing the skill of students in its use.
5. Imbuing students with professional concepts—including those related to the problems of ethical, moral, historical, and legal considerations—and especially, the responsibility of the pharmacist to minister to the health needs of people, to belong and to contribute to the objectives of his professional organizations, and his responsibility to contribute to good interprofessional and community relationships.
6. Bringing to students a broad understanding of public health, the unique contributions of the various professions and sciences which contribute to the health and welfare of the people, and especially the role of pharmacy in medical care.
7. Acquainting students with the concepts, procedures, and practices involved in the efficient organization and progressive management or administration of a pharmacy department in a modern hospital.
8. Preparing students to provide to the public and to members of allied professions the basic services of pharmacy as one of the public health professions.
9. Developing in students an inquiring mind and preparing them to undertake investigation and research, at least on a certain level.

Education for Research

Research is one of the basic functions of a teaching hospital. In many teaching hospitals the chief pharmacist may, by virtue of his position and the objectives of the hospital, engage in research. In spite of this, there is only a limited amount of research in pharmacy being done in teaching hospitals today. This is in sharp contrast to contributions by hospital pharmacists in several European countries where the pattern for research in hospital pharmacies has been established for many years. Perhaps a part of the reason for the small output of research by American hospital pharmacists can be traced to the slow development of pharmaceutical education in the United States. As Powers states:[10]

"No degree of homogeneity in pharmaceutical education in the United States was achieved until 1932, when four years of college training became the minimum for a degree and a prerequisite in some states for registration as a pharmacist. The confused state of pharmaceutical education that existed prior to this time, with two-, three-, and four-year courses being offered simultaneously and with no uniformity in prerequisites for admission to these courses, is familiar to all educators. These attenuated courses did not provide adequate foundation for basic research or graduate training, and faculty members, for the most part, were not prepared to direct such work."

Hospitals offer great opportunities for pharmacists to carry out independent research and to conduct research in cooperation with medical and allied staffs. The problems demanding study are varied and numerous.

Undoubtedly, training at the Doctor of Philosophy level is essential for hospital pharmacists who wish to pursue research at its higher levels. Academic training involving a year or more of concentrated research taken under a professor with creative imagination and proved ability in research is unquestionably the best possible type of preparation.

One may question, however, if the Doctor of Philosophy degree is the complete or only answer for those in hospital pharmacy who wish to undertake research at some level. Much depends, of course, upon one's definition of research, but it is apparent that, in practice, much that is published by doctors of philosophy represents research at different levels.

Can one not draw a parallel between those who have the professional degree of Doctor of Medicine and who conduct significant research, and those who obtain a Doctor of Pharmacy degree under the six-year program? The degree of Doctor of Medicine is, of course, not a research degree. Still, significant research is done by possessors of this nonresearch degree. In fact, more than 50 percent of the faculties of many medical schools do not have research degrees. From this it would appear that an individual with an excellent educational background in the basic sciences upon which his profession is founded could, with proper motivation and opportunity, conduct significant research. However, the truth of this postulate, as far as pharmacy is concerned, remains to be proved.

While perhaps a bit beside the point, one may also raise the question of the possible future teaching role of the individual with a Doctor of Pharmacy degree, obtained after a six-year program. Is it not possible that his role in pharmacy schools may be similar to those of the Doctor of Medicine in medical schools? Are there not advantages to students to have certain professional courses taught in a clinical setting by individuals close to the professional practice of pharmacy?

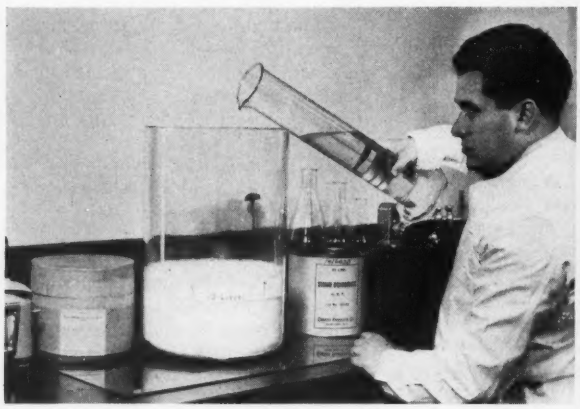
Means of Accomplishment

How may the objectives of professional education for career hospital pharmacists be best achieved? The pioneer in specialized education for hospital pharmacists in America was Dean Edward Spease who, in 1937, instituted graduate work in hospital pharmacy at Western Reserve University.[11] Students in hospital pharmacy also served an internship at University Hospitals in Cleveland. Dean Spease was greatly influenced by Harvey Whitney who, in the late 1920's, began an internship program for hospital pharmacists at the University of Michigan Hospital in Ann Arbor. Later, in 1947, the Philadelphia College of Pharmacy with Jefferson Medical College Hospital, and the University of Maryland with The Johns Hopkins Hospital initiated combined programs of

[10] Powers, Justin L.: "The Quality of Research Papers from Colleges of Pharmacy," *Am. J. Pharm. Educ.* **20,** 24(Winter, 1956).

[11] Spease, Edward: "The Present Status of Hospital Pharmacy," *J. Am. Pharm. Assoc.* **27,** 241(Mar., 1938).

Bulk Compounding



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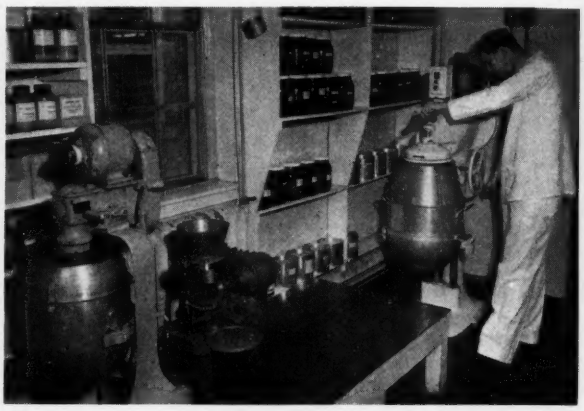

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Such large quantities of some pharmaceutical items are needed in hospital practice that it is frequently advantageous to prepare them in bulk quantities. This is especially true of products listed in the hospital formulary. Many hospital pharmacists have equipment which they have adapted to their own needs such as the jar usually used for preserving pathological specimens (20) or the paint mill (21) used for preparing ointments. In larger volume operations the fusion method is used to prepare ointments with a roller mill, steam kettle, and other large equipment (27). Large stainless steel tanks (26) are frequently used for storing and transporting materials in the hospital pharmacy. Formulation of products (25) is an important part of the bulk compounding program. A knowledge of incompatabilities, flavoring, physical and chemical properties, stability and storage characteristics, and many other facets of pharmacy is required. Potency and safety of pharmaceutical products must be assured through adequate control procedures (22). Special labeling techniques such as silk screening (24) of containers which are sent to the nursing units, make drug cabinets neat and assure proper reading of labels for patient safety. The use of the formulary system makes possible the prepackaging of drugs (23), particularly for dispensing to the nursing units.

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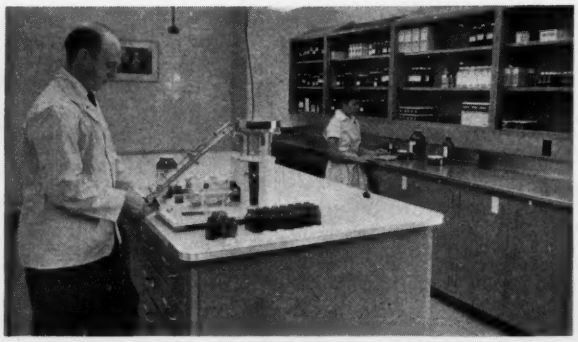

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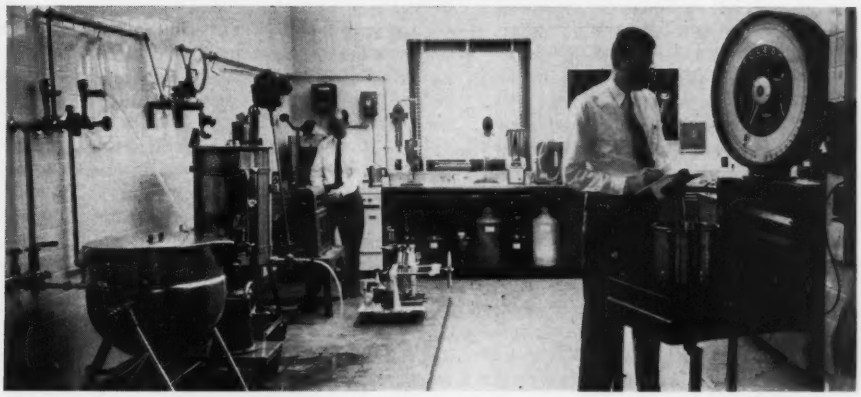

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Making Sterile Solutions

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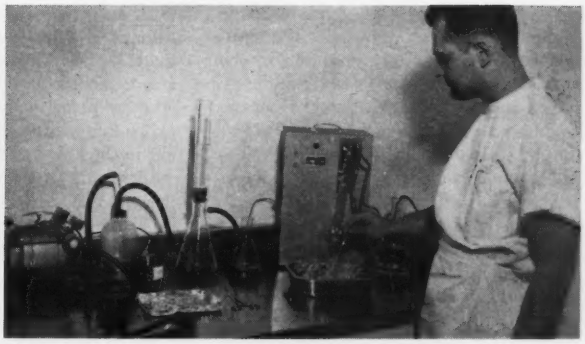

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Pharmacists prepare sterile solutions in the hospital as one of their duties to make those items which are not commercially available, to save money, and as an adjunct in their teaching programs. Large volume parenteral products such as dextrose solution, saline and water for injection require the use of large amounts of distilled water. A conductivity meter (31) is frequently used to indicate the possible presence of pyrogens. A hospital which manufactures large volume parenteral solutions may frequently produce 50,000 to 100,000 liters of such material annually. Sterile irrigating fluids, which are used largely in the operating room, usually require the same type of equipment and containers in their preparation. An autoclave (30) with automatic recording equipment is used to sterilize the packaged materials. Small volume parenteral products (28) are made either by sterilization or by aseptic technique. The automatic measuring pipette (29) is widely used for solutions such as narcotics, which must be measured accurately. *Continued on page 232*

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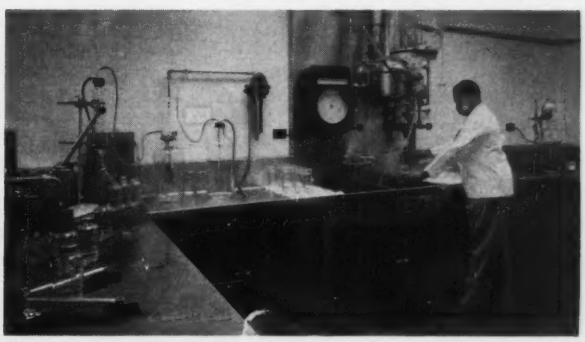

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education and training in hospital pharmacy leading to the Master of Science degree and a Certificate of Internship. Today, a total of about 15 similar programs are in operation. These programs have been instrumental in fostering the concept of specialized education and training for hospital pharmacy as a career—a concept of the highest importance. At the time they were started there was no other means to offer additional education in pharmacy except through the medium of graduate education.

Five-Year Programs

For purposes of this discussion, the five-year undergraduate program as well as the graduate program leading to a Master of Science degree, which also involves five years of education, will be discussed together.

The present pattern of education for career hospital pharmacists is one year of graduate training at the Master's degree level. The great disadvantage of this program at present is that students are inadequately prepared in the biological sciences and often completely lack some of the basic courses essential to further work in this field. For example, students may lack or have inadequate courses in anatomy, physiology, pathology, and pharmacology. Thus, attempts to take advanced graduate courses in pharmacology are fraught with difficulty and it is next to impossible for the student in his graduate work to obtain the essential background courses for advanced pharmacology. Most important, the proper course sequence is lost to the graduate student so that if he does take the basic courses, which he should have taken years ago, he does so only at a great sacrifice in time.

The Master's degree program has served a useful purpose. However, one may ask whether this is the desirable pattern of education for career hospital pharmacists. Does it provide the educational background required for hospital practice? Some of the Master of Science degrees offered are research degrees while others are essentially professional degrees. Is this pattern desirable? Does the Master of Science as a professional degree have the significance it should, or is it little better than the Bachelor of Science degree? Should a research degree be sought by those interested primarily in hospital practice, or should training for research be superimposed upon more adequate professional education, according to need?

It is generally recognized that the Master of Science degree does not adequately train an individual for research, and when adapted as a professional degree for pharmacy practice, it can only make up some of the deficiencies inherent in the four or five-year programs.

Certainly the five-year undergraduate program, which becomes mandatory in colleges of pharmacy after 1960, can play an important role in supplying better qualified staff pharmacists for the nation's hospitals. It is reasonable to expect that this program will correct some of the deficiencies of the four-year program. However, it is doubtful whether the educational background provided by the five-year program will be adequate to meet the needs of career hospital pharmacists. It is reasonably certain that an additional year either of undergraduate or of graduate training will be required.

Six-Year Programs

In considering the six-year programs, the basic consideration is whether the career hospital pharmacist can be better prepared under a program consisting of five years of undergraduate work plus one year of graduate study leading to a Master of Science degree, or whether a six-year undergraduate program leading to a Doctor of Pharmacy degree is preferable. A further consideration is the relative significance of the Master of Science degree and the Doctor of Pharmacy degree for the pharmacist who practices in an environment of close association with others possessing the professional doctor's degree.[12]

Perhaps the greatest benefits a six-year program leading to a Doctor of Pharmacy degree offers hospital pharmacists are those which result from a well-planned sequence of courses. For example, after the student has had two years of basic college work he is ready to undertake an intensive four years of professional education. These years can provide in proper sequence courses in anatomy, physiology, biochemistry, bacteriology, pathology, pharmacology, and public health—in addition to the courses in pharmacy, pharmaceutical chemistry, pharmaceutical administration, etc. Moreover, the six-year program can provide for 10 to 15 hours of electives in the senior year. The student preparing for a career in hospital pharmacy may select such courses as hospital pharmacy administration, parenteral products, product development, additional courses in administration, manufacturing, public health, etc. Such a six-year program permits adequate training in the biological sciences as well as the physical sciences. The greatest weakness in the professional training of pharmacists today—those who work intimately with physicians—is their lack of adequate preparation in the biological sciences, particularly pharmacology, its prerequisites and cognate courses.

There are strong indications that the professional degree of Doctor of Pharmacy awarded for the completion of a six-year program would better fill the needs of career hospital pharmacists than does the present Master of Science degree program. The Doctor of Pharmacy (Phar. D.) degree should be clearly dif-

[12] Francke, Don E.: "The Doctor of Pharmacy Degree for Hospital Pharmacists" (Ed.), *Bull Am. Soc. Hosp. Pharm.*, **13**, 443(Sept.-Oct., 1956).

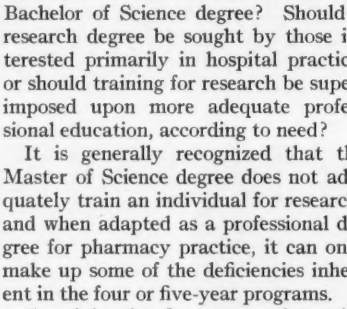
EDUCATION AIDED

The pharmaceutical industry has done much to help Colleges of Pharmacy strengthen ties with their graduates and with other pharmacists and to influence high school graduates in pursuing courses in Pharmacy.

Recently, Schering Corporation inaugurated a program which contributes to this activity by highlighting a College of Pharmacy each month in a series of fine inserts presented in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION and in *American Professional Pharmacist.*

The specially prepared insert, which is also distributed widely by each college by mail to its alumni and friends, begins with the seal of the institution. Following this is a letter from the Dean and a line drawing of the college building, each suitable for framing. (See 4-page insert in the center of the JOURNAL.)

Schering is to be congratulated for this tribute to our profession. By thus stimulating greater interest in pharmaceutical education, the pharmaceutical industry is helping the Pharmacy colleges, education in general and the industry itself in developing in the public a greater interest in Pharmacy and public health.



Dean H. C. Newton and J. Dennis Sullivan

In the photo above J. Dennis Sullivan, (right), Trade Relations Manager for Schering Corporation, presents to Dean H. C. Newton of the Massachusetts College of Pharmacy the original line drawing of the College which was used recently by Schering in the insert promoting "closer ties" between alumni and the College.

ferentiated from the Doctor of Philosophy (Ph.D.) degree. The former is a professional degree, analogous to a Doctor of Medicine (M.D.) or Doctor of Dental Surgery (D.D.S.), which is awarded after the completion of a program of education for professional practice. In contrast, the Ph.D. degree is a higher degree taken at the graduate level; its distinguishing characteristic is that it prepares the recipient for research.

The Doctor of Pharmacy degree offers several advantages to those in hospital practice, advantages which are inherent in neither the Bachelor of Science nor the Master of Science degrees. First, the degree itself has a level of professional standing which is commensurate with the professional degrees of medicine and dentistry. This is important in hospital pharmacy practice, carried on as it is in an environment where recognized professional doctorate degrees are essential for influence and prestige. This need has been well expressed in The General Report of the Pharmaceutical Survey:[13]

"The bachelor's degree does not, however, confer the status that is desired by pharmacists, particularly those who work in rather intimate professional association with physicians, dentists, and members of other health professions who hold professional doctor's degrees."

If the present program of education for career hospital pharmacists is maintained at the Master's level, the number of years involved in education and training will be seven (five years of undergraduate work, one year of graduate work, and one year of internship). If the six-year program becomes more widely available the time involved will still remain the same, seven years (six-year program plus one year internship). However, the latter program would have the advantage not only of terminating in a more meaningful professional degree, but also would more adequately prepare the individual for professional practice in hospitals.

Internships in Hospital Pharmacy

Harvey A. K. Whitney is generally credited with offering the first well-organized training program for hospital pharmacists in the United States. He began the first program at the University Hospital, University of Michigan, in 1927.[14] Later, it was the American Society of Hospital Pharmacists which became the prime force for the establishment of well-regulated hospital pharmacy internships.

At the Society's very first meeting in Columbus, Ohio, in 1943, plans were laid for establishing standards for hospital pharmacy internships and the Executive Committee directed that "an outline of the principles of such an internship in hospital pharmacy be prepared, this to be approved by various accrediting agencies."[15] During the period 1943–1947, Donald A. Clarke, then Apothecary-in-Chief at the New York Hospital, and his Committee on Minimum Standards did the basic work in developing standards for hospital pharmacy internships. Clarke and his committee widely circulated their proposals requesting comments and suggestions for improvement of the proposed standard.[16] In 1948, when Dr. W. Arthur Purdum was chairman of the Committee on Minimum Standards, the proposed Minimum Standard for Pharmacy Internships in Hospitals was published in *The Bulletin of the American Society of Hospital Pharmacists* and approved officially by the Society the following year.[17] The latest revision of the Standard appeared in the same journal in 1955.[18]

This Standard was referred to the Division of Hospital Pharmacy of the A.Ph.A. and ASHP in 1951 with the request that a program for the accreditation of internships be established. In 1955 the Policy Committee approved an evaluation form which was sent to the chief pharmacists of essentially all hospitals offering internships in hospital pharmacy. This evaluation form has been published.[19] The purpose of this preliminary distribution of the evaluation form was to pretest the questionnaire and to obtain comments from those in charge of internship programs. Results of this pretest were collated by Herbert L. Flack. Later, Flack served as chairman of the A.Ph.A. Division of Hospital Pharmacy's Task Force to prepare recommendations for the development of an approval program for accreditation of internships. In 1956, the Division began actual inspections of internship programs for purposes of approval and the Accreditation Program is now being continued by Paul Parker, Director of the A.Ph.A. Division of Hospital Pharmacy.

Internship Programs

There are two general types of internship programs for hospital pharmacists.[20] Approximately 20 hospital pharmacies offer a straight internship program not combined with academic work. These internships fill an essential role in the training of hospital pharmacists, a role which becomes more and more significant with the imminence of the five-year educational program for pharmacy as a whole. These internships are, in fact, the only sources of organized training for the recent graduate interested in hospital pharmacy, unless he also wishes to obtain an advanced degree. Even in the latter instance, however, it is doubtful that all prospective students could be accommodated in programs accompanied by graduate work.

The second type of program is one in which the hospital pharmacy internship is taken concurrently with graduate study in a school of pharmacy. Successful completion of this program leads to a Master of Science degree granted by the school and a Certificate of Internship awarded by the hospital. There are now approximately 15 programs of this type. The principal advantage of the combined program is the additional year of academic study which the student-intern receives. In this connection, Purdum has raised the question of the effect the five and six-year curriculums will have on internships programs associated with graduate study.[21] It is his opinion that there will be decreased demand and that steps should be taken now to provide courses related to hospital pharmacy during the fourth and fifth year of the five-year program so that the student will be prepared to enter an internship directly following graduation. However, it is our belief that a significant number of prospective hospital pharmacists would not hesitate to spend an additional year in school if the Doctor of Pharmacy degree were more widely available.

Definitions

Beginning in 1947, a number of hospitals and colleges of pharmacy began to offer combined programs in hospital

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[13] American Council on Education: *The General Report of the Pharmaceutical Survey 1946–1949*, Edward C. Elliott, Director, Washington, D.C., p. 103.

[14] Whitney, Harvey A. K.: Personal communication.

[15] Niemeyer, Gloria; Berman, Alex; and Francke, Don E.: "Ten Years of the American Society of Hospital Pharmacists, 1942–1952," *Bull. Am. Soc. Hosp. Pharm.* **9**, 367(July-Aug., 1952).

[16] Clarke, Donald A.: "A Scheme for Hospital Pharmacy Internships," *Bull. Am. Soc. Hosp. Pharm.* **4**, 97(May-June, 1947).

[17] Purdum, W. Arthur, *et al.*: "Standards for Internships in Hospital Pharmacies," *Bull. Am. Soc. Hosp. Pharm.* **5**, 233(Sept.-Oct., 1948).

[18] ASHP Committee on Minimum Standards: "Minimum Standard for Pharmacy Internships in Hospitals," *Bull. Am. Soc. Hosp. Pharm.* **12**, 288 (May-June, 1955).

[19] Anon.: "Approval Program for Internships in Hospital Pharmacy," *Bull. Am. Soc. Hosp. Pharm.* **12**, 309(May-June, 1955).

[20] Education and Internship Number of *Bull. Am. Soc. Hosp. Pharm.*, **12** (May-June, 1955) includes 20 articles on education and internships in hospital pharmacy.

[21] Purdum, W. Arthur: "Internship in Hospital Pharmacy," *Am. J. Pharm. Educ.* **20**, 560 (Fall, 1956).

Radioisotopes

Radioactive medications at the University of Chicago Clinics are procured and dispensed by the pharmacy department. The physician, upon deciding to use a radioactive medication, calls the pharmacist and gives the necessary information (32). The pharmacist figures the amount of solution necessary to provide the required dosage by using a decay chart and slide rule. The decay chart has a decomposition curve for each specific isotope. The percentage concentration and the time, in days, are plotted (33). A record of each shipment of radioisotopes is kept to show its ultimate disposition. The top section provides all data pertinent to the particular shipment and the entries show all data regarding each amount dispensed (34). The medication is measured into a small paper cup and carried in a lead container. The label shows all data necessary for control (35). The pharmacist measures the medication behind a lead barrier with the use of a mirror (36). A rough assay of each dose is made with an electroscope (37). The pharmacist administers the medication to the patient to prevent unnecessary handling (38). The physician makes the entry in the patient's chart to include the label from the container with the control data (39). All disposable material is placed in special waste containers and ultimately burned. Other contaminated materials are stored in lead vaults until the radioactivity becomes negligible. Lead vaults for storage of such material are shown (40). At the completion of the operation, the area is surveyed to detect any amount of contamination in the laboratory (41). A member of the Radiology staff serves as a consultant to the Pharmacy concerning every procedure carried on in the Isotope Pharmacy.

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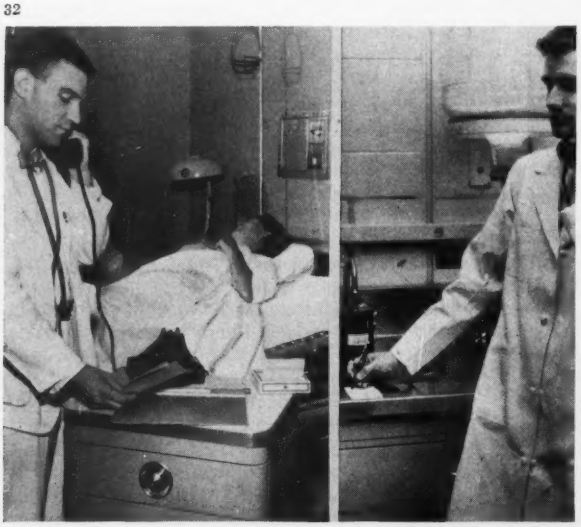

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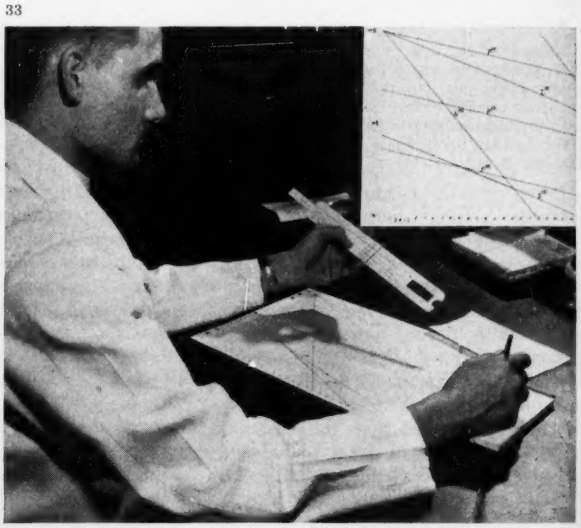

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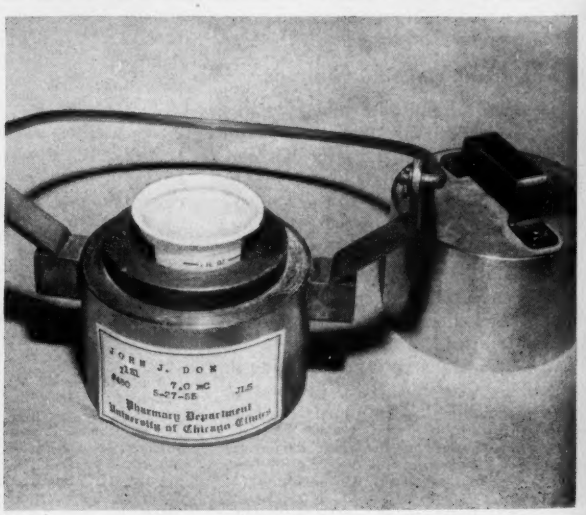

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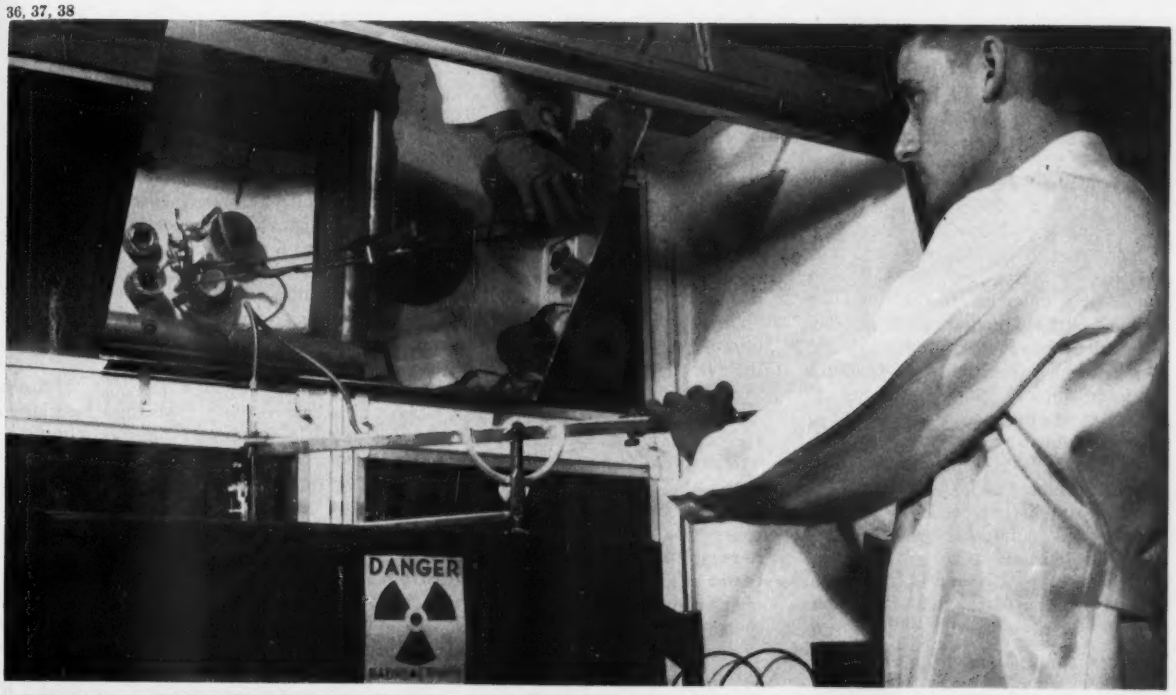

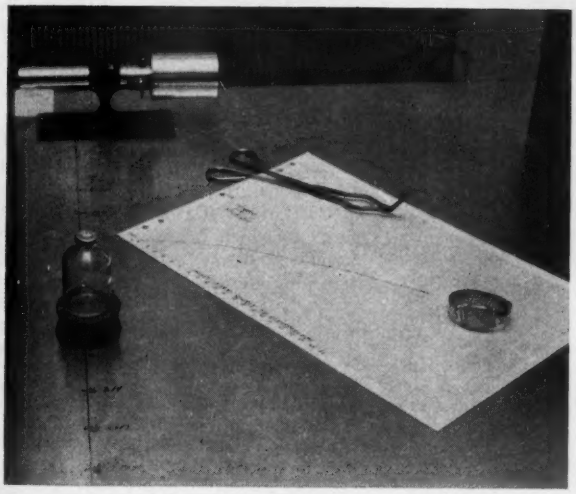

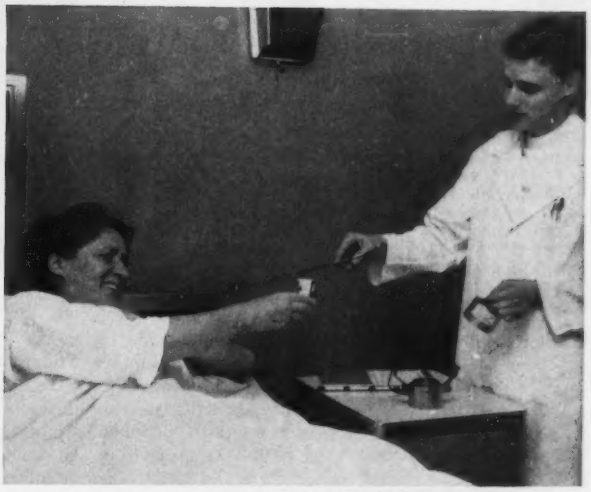

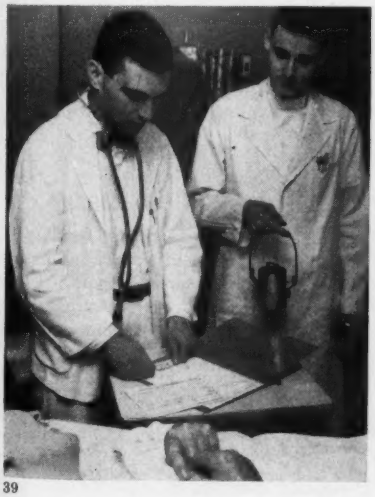

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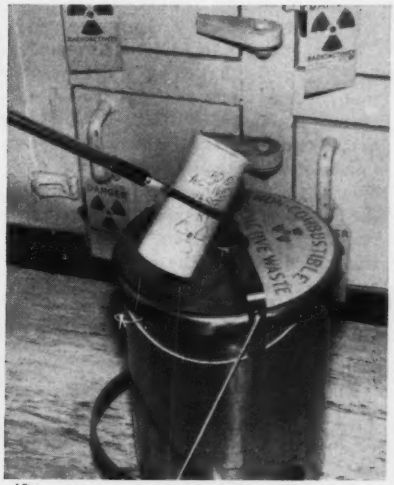

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pharmacy consisting of an internship in the hospital and graduate study in the college. This led to the use of the terms *academic* and *nonacademic* to differentiate internships offered concurrently with graduate training from those in which the student was not enrolled in a college of pharmacy during his training program. However, use of the terms academic and nonacademic internships brought considerable confusion. The question was raised as to whether there should be a difference in the standards for the internship program itself, whether or not there was further academic work. It was decided that the basic standards for internships should apply to all internships, whether accompanied by further academic work or not.

To clarify this misunderstanding, and to relate training in hospital pharmacy to other similar programs in hospitals, and to differentiate internships from graduate instruction, the Policy Committee of the Division of Hospital Pharmacy adopted the following definitions:[22]

"1. A *hospital pharmacist* is a licensed pharmacist employed as a pharmacist in a hospital.

"2. A *hospital internship* is a period of on-the-job training accepted as a prerequisite for the satisfactory indoctrination of practitioners of the healing arts. It is not to be compared to or confused with formal education in specific sciences considered basic for the education of those who are to practice the art of medicine, pharmacy, or related professions.

"3. A *pharmacy internship in a hospital* is a period of organized training in a hospital pharmacy whose facilities and personnel for providing such training have been certified by the Division of Hospital Pharmacy of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists. The internship shall consist of not less than 1920 hours of training in a certified hospital pharmacy.

"4. A *hospital pharmacy intern* is a graduate pharmacist who is receiving his or her practical experience in a hospital approved by the Division of Hospital Pharmacy for supplying such training.

"5. *Graduate instruction in pharmacy* is an academic program of advanced study offered by a college of pharmacy or a graduate school fully qualified for instruction in the field of graduate study."

Minimum Standards

The Minimum Standard for Pharmacy Internships in Hospitals provides qualifications for the applicant and for the training hospital.[18] The latter shall be a general hospital approved for medical internship training by the Council on Medical Education and Hospitals of the American Medical Association and shall have active outpatient pharmacy service. The Department of Pharmacy must comply with the Minimum Standard for Pharmacies in Hospitals as approved by the Division of Hospital Pharmacy. The pharmacy intern must be provided supervised training in (1) the outpatient prescription laboratory, (2) the general dispensing laboratory, (3) the manufacturing laboratory, and (4) in departmental administration. A minimum of 240 hours must be spent in each of the four divisions of the department with the total period of training not less than 1920 hours.

Regular lectures and conference periods must be conducted by the chief pharmacist or his assistant for the interns, and these must consider the theoretical and practical aspects related to each of the four major areas of the intern's training. The intern is also encouraged to attend therapeutic conferences, undertake a program of investigation of some pharmaceutical problem, and to cooperate in teaching courses to the students in schools of nursing and in the medical intern programs. The Guide to the Application of the Standard contains specific recommendations for instruction and experience which the intern should receive, and these are stated in greater detail in the evaluation used in the approval of the internship programs. As Scott and Frazier have pointed out:[23]

"Although hospitals and hospital pharmacies may differ considerably in volume, facilities, and extent of service, the internship should nevertheless provide the basic training and fundamental principles in such a way that the theory behind the practice will enable the intern to adjust to the different systems and circumstances of future positions. That is, it is necessary to find the 'why' back of every 'how.' "

Significance

The greatest significance of the Minimum Standard for Pharmacy Internships in Hospitals is that it was initiated and developed by a group of professional practitioners in an earnest desire to provide an organized, formalized, and meaningful period of specialized training for future members of the profession. It is the fact that the standards for training in hospital pharmacy have been developed by practitioners that makes them so significant. As Busse emphasizes:[24] "It is obvious that from the very beginning practitioners in pharmacy in general did not assume the responsibility necessary for the complete orientation of the apprentice to his profession." Again, the General Report of the Pharmaceutical Survey commented that,[25] "The fundamental responsibilities of the master pharmacist to the apprentice have yet to be realized and fulfilled" and ". . . the present requirements for practical experience as a prerequisite for licensure be modified to be of more practical value or else abolished."

Thus it would appear that hospital pharmacy, through its efforts to establish high caliber internship programs, is making a significant contribution to the profession. This makes it even more difficult to understand the attitude of the American Association of Colleges of Pharmacy toward these efforts. In a resolution passed in 1952 the colleges expressed the view that ". . . Be it further resolved that this Association feels that training in hospital pharmacy not complemented with or accompanied by further academic training is not in the best interest of the future development of hospital pharmacy and the profession."[26]

The hospital is the best possible environment for the training of pharmacy practitioners. It is the training center for essentially all members of the health team—physicians, nurses, dietitians, administrators, dentists, physical and occupational therapists, laboratory technicians, social workers, and others. Should pharmacy be omitted?

The pharmacy internships in the hospitals of the Public Health Service illustrate the opportunity for excellent training and the development of interprofessional relationships that can be offered by hospitals with an internship program which is not accompanied by formal academic training. These internships consist of a

"series of lectures, conferences, and practical experiences covering all phases of hospital pharmacy. In addition, the pharmacy intern rotates among the other departments of the hospital, such as internal medicine, surgery, pathology, radiology, nursing, and administration. He participates in staff and committee discussions, seminars and demonstrations, and works with interns from other services on joint studies. Thus the intern pharmacist gains firsthand knowledge of the professional and management activities that comprise the total hospital function, with special reference to drug evaluation, selection, and utilization, also to drug research, movement, and control."[27]

Future

Hospital pharmacy has a fundamental interest in education and internship training for its practitioners. Upon developments in these two areas rests the future of hospital pharmacy and its role in bringing better pharmaceutical service to patients in the nation's hospitals.

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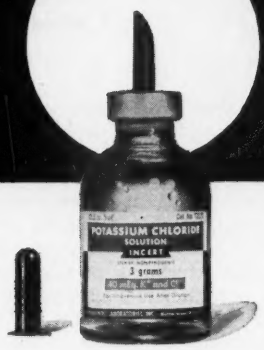

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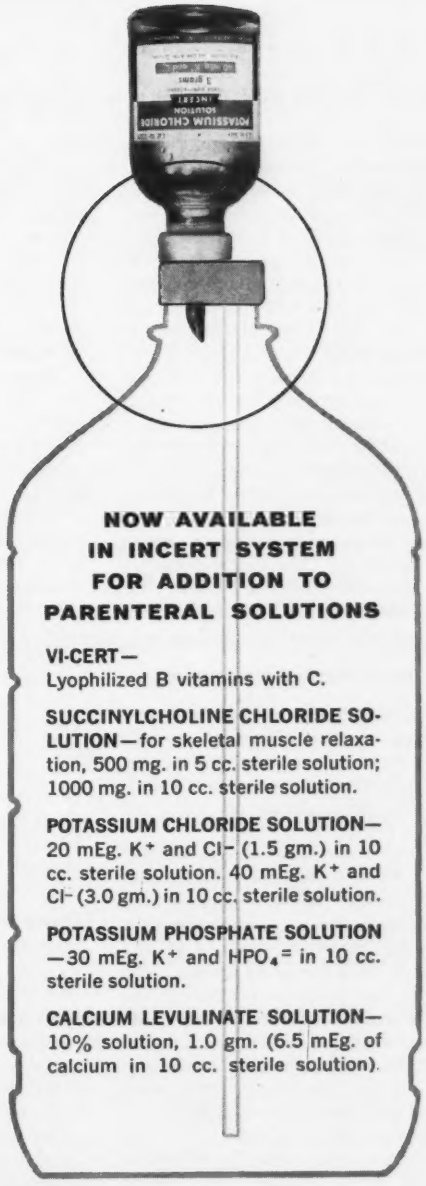

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On The ECONOMIC SIDE

by Charles C. Rabe

New Careers in Chain Drug Field

Newspaper advertisements of an Eastern drug chain state:

"Our pharmacists are not store managers. We believe they should be allowed to devote full time to filling your prescriptions with the utmost care."

What implications does this hold for pharmacy of the future? Is it an admission that academic training in pharmacy administration has not lived up to expectations and that pharmacy graduates do not have the administrative and general business know-how to function effectively as store managers? Or does it mean the beginning of a new type professional career in pharmacy?

Some chain drug executives have reported that pharmacists have declined store managerships with the frank admission that they preferred to operate as professional men within the confines of the prescription department. If this should develop into any sort of trend in the years ahead it will mean that chain outlets will have to place even greater promotional efforts on their prescription departments in order to justify full-time professional employment of one or more pharmacists. And, it could mean that several thousand pharmacists might ultimately find careers of a strictly professional nature in the chain field.

Maximum Prices on Prescriptions

During recent years many addresses have been delivered before drug groups regarding the pricing of prescriptions, and almost without exception the emphasis has been placed on suggested minimum prices.

Speakers have been quoted by the press as having said that pharmacists will have to learn to charge more if they want to be more successful and that they must follow the pattern of the plumber, television repairman, etc. The emphasis has been on protecting the pharmacist and all the while the public continues to be more concerned about the so-called high price of prescriptions. Unfortunately, the public press often feeds on such material and relays it in damaging form to its readers.

This is not to say that the subject of minimum prices is entirely out of order because surveys have shown very conclusively that many pharmacists have been subsidizing the public at considerable personal expense and loss due to slipshod pricing practices.

It is common knowledge that pharmacists within a given pharmacy have charged different prices for the same prescription. The profession can pride itself on having forcibly called this matter to the attention of its practitioners in suggesting that one of several pricing schedules be used as a basis for uniform pricing.

But aside from the good that has been accomplished, some of the talk about minimum prices has meant poor public relations for pharmacy because many people are already under the false impression that all medication is priced too high. It would appear as though it might be well for pharmacy to go on record as adopting a maximum price on prescriptions, particularly those for new and expensive products. Gouging is infrequent, yet isolated cases can poison public opinion to the detriment of the profession at large.

Pharmacists in a given geographic area should be able to arrive at maximum prices on certain types of expensive prescriptions. Obviously, this could not be done on a nationwide basis since operating expenses vary from one area to another. But pharmaceutical associations at the metropolitan and county level could go on record as having adopted such a code without publicly identifying prescription products so covered. The listing of products would be placed in the hands of the association's grievance committee, whose function it would be to pass judgment on complaints from physicians and lay persons regarding excessive prescription charges.

Pharmacy as a profession should let it be known that it is just as much interested in protecting the public against excessive charges as it is in safeguarding its practitioners from charging too little.

Ethics and Economics

Off-the-cuff speechmaking has dealt with the subject of ethics in pharmacy, and ethics in this and ethics in that, but few pharmacists have cared to commit themselves in print regarding some of the perplexing problems of the day. And it is understandable that there should be such reluctance because pharmacy, like many other professions, is being practiced in an economic climate that makes it difficult to promulgate and enforce ironclad codes regarding certain issues.

Among the problems in ethics facing pharmacy are the following: 1) the use of imprinted prescription blanks, 2) direct telephone lines, and 3) the advertising of professional services. Some pharmacists are of the opinion that none of these practices is unethical, whereas other pharmacists, and state and local associations, have even gone so far as publicly to pronounce one or more of these activities as being highly unethical.

The economic aspects of the practice of pharmacy make it doubtful whether one can hope to expect any degree of unanimity of opinion on these issues of the day. It appears as though opinion is influenced very largely by whether the pharmacist is meeting a payroll or accepting pay, and particularly by whether or not he is presently utilizing the promotional methods listed above.

Employment Contracts

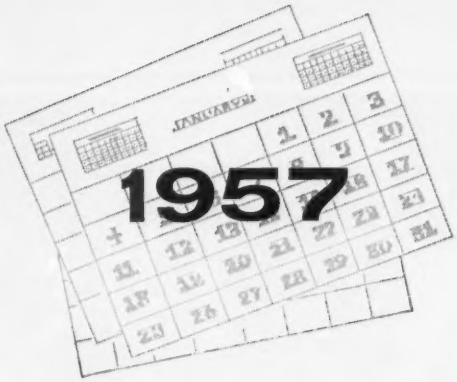
Employment contracts between pharmacy proprietors and pharmacist-employees are generally on a verbal basis, thus leaving both parties free to terminate their agreement on short notice, and often at great inconvenience and loss to one or both parties.

There is much to be said for and against both written and oral contracts of employment; however, there is enough merit to the written form to warrant its careful consideration and use in holding top quality personnel at a time when the demand for pharmacists exceeds supply. Unfortunately, most employers generally regard the written contract as favoring the employee when in fact it can be an instrument giving carefully defined protection, rights, duties, and responsibilities to both parties.

Employers are often afraid of being saddled with a non-productive or socially antagonistic pharmacist. A measure of protection can be afforded the employer by defining an extended probationary or trial period of employment after which the contract would become fully effective.

The subject of employment contracts is complex and involves many other important points that must be incorporated into a well constructed written agreement. But basically, the employee will be interested in working conditions and income and the employer will be most concerned about the employee's productivity and honesty.

The time may come when the written contract of employment will become popular in pharmacy, but if it does one cannot escape the obvious conclusion that productivity on the part of the employee must continue to be the heart of the contractual agreement.



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APOTHECARY

1. ITALIAN RENAISSANCE hospitals were decorated by leading artists of the day. Here Domenico di Bartolo's hospital scene painted on the wall of the Infirmary of the Pilgrims, a part of the Hospital of Santa Maria della Scala, in Siena. The figure in the center sporting the turban is the apothecary. Such hospitals and earlier monastic institutions became centers for the gradual specialization in hospital pharmacy.

SCENES FROM THE

History of Hospital Pharmacy

by Alex Berman* and George Griffenhagen**

MANY of the hospitals of the large cities in Italy during the Renaissance reflected the culture of that era. Artists of the stature of Luca della Robbia and Brunelleschi contributed their talents to the construction of some of these hospitals. It was in these hospitals as well as in earlier monastic institutions that we find the beginning of specialization in hospital pharmacy.

Shown in Fig. 1 is a fresco painted by Domenico di Bartolo (14–15th century) in the Infirmary of the Pilgrims, part of the Hospital of Santa Maria della Scala, Siena. The two patients in the foreground, probably pilgrims, are being treated and cared for by the hospital attendants. The turbanned figure in the center is an Italian apothecary (*speziale*) of the period. In the background right is a priest with a drug jar in hand, and a reclining patient is seen. Overhead is a shelf stocked with other medicinals.

By the 18th century the hospital pharmacy in Europe was a well established and significant part of all large hospitals. Figure 2 shows the busy pharmacy in the hospital at Vercelli in the 18th century, then one of the largest hospitals in Italy. The painting, by an unknown artist, depicts the work of the pharmacy in full swing at the moment when the physician, having finished his rounds of the wards, enters the pharmacy in order to write some prescriptions for the poor people who presented themselves for treatment—a sort of out-patient department. Through the central door a pharmacist enters from the laboratory or dispensary. Another pharmacist at the top of the ladder on the right hands down a large jar to the outstretched hands of his colleague below. The customers include an old woman on the far right who is receiving a prescription from the seated physician.

AMERICAN hospitals for a time followed the English pattern fairly closely in the employment of an apothecary who combined pharmaceutical and certain medical functions. For example, when the Massachusetts General Hospital opened in 1822, the rules stipulated that the apothecary "must have completed one year as a Student in Medicine . . . was to care for all drugs, surgical instruments, administer the medicines . . . visit the sick twice a day, and in the absence of the Physician and Surgeon to care for emergencies." By 1830 the medical duties of the apothecary were relegated to a newly created officer called the "House Physician," and while the apothecary continued to

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** Curator, Division of Medicine, Smithsonian Institution, Washington, D.C., and Consultant to the AMERICAN PHARMACEUTICAL ASSOCIATION Museum.

retain his title, he became henceforth a practitioner of pharmacy. Similarly, at the Pennsylvania Hospital the apothecary, whose position had been created in 1752, ceased to perform medical functions in the 1820's.

From 1752 to 1821, pharmaceutical services at the Pennsylvania Hospital were performed by apothecaries, medical students and medical apprentices. Between 1768 and 1773 two London apothecaries were imported to service the hospital, and from 1787 to 1821 the position of apothecary was filled by medical apprentices. Beginning in 1821 the policy of utilizing qualified pharmacists was begun, with the medical duties of the apothecaries being assigned to Resident Physicians, and the office of Medical Apprentice was abolished. Henceforth the title "Apothecary" signified a hospital pharmacist. In 1824 the hospital formally adopted an administrative policy of "appointing an educated pharmacist and relieving the medical staff and resident physicians from all responsibility in this department." (T. G. Morton)

An interesting episode in the early history of pharmacy at the Pennsylvania Hospital occurred when a young man, Thomas Boulter, was hired in 1766 to serve an apprenticeship in "The Art, Trade and Mystery of an Apothecary." The contract, witnessed among others by the youth's mother, stipulated that Boulter serve a five-and-a-half year term. During this time the young man was required to be chaste and celibate, to avoid "Cards, Dice or any other Unlawful Games," and "Not haunt Alehouses, Taverns, or Play-houses." Upon completion of his term, Boulter was given "one new suit of apparel" and appointed Assistant Apothecary. For about two months in 1773 Boulter served as Apothecary, but the Managers of the hospital were not satisfied with his ability and replaced him with an Apothecary selected on the basis of a competitive examination.

A number of the pharmacists serving the Pennsylvania Hospital during the 19th century were graduates of the Philadelphia College of Pharmacy. Among these were Benjamin Shoemaker, Jr., class of 1866; Jacob K. Hecker, '68; and Charles Wirgman, '69. The striking photograph of the Pennsylvania Hospital Pharmacy (Fig. 4) was taken sometime between 1891 and 1895. Standing behind the dispensing counter is the Apothecary, Joseph Yeager Taylor. Mr. Taylor was a graduate of the Philadelphia College of Pharmacy, class of 1875. A large portrait on the wall (not visible in this view) was that of John Conrad, who served as Apothecary to the hospital from 1831 to 1870. Dr. Conrad (1810–1881) received his M.D. degree from Jefferson Medical College in 1850 during his term of employment as pharmacist at the Pennsylvania Hospital.

HOSPITAL pharmacy has played an important role in the military service since the Renaissance. The first military field hospitals provided with suitable personnel for dispensing and preparing medicines appeared in Spain at the close of the 15th century. On July 17, 1775, the Continental Congress in this country passed a resolution establishing an army hospital for the Armies of the American Revolution, and the hospital included an apothecary. During the Revolutionary War, as well as the War of 1812, the apothecary held a rank equal to the surgeon, being a commissioned officer. In the long period between 1821 and 1861 there was not much need for a regular pharmaceutical service in the insignificant army and navy of the United States. In 1862, the Secretary of War added to the Medical Department of the Army "Medical Storekeepers . . . who shall be skilled Apothecaries or Druggists." Unlike their professional colleagues on the Continent who received officer status, the pharmacist of the Union Army during the Civil War was ranked as Hospital Steward. Figure 3 shows the uniform of one such Hospital Steward. In an attempt to elevate the position of the pharmacist, an organization of Hospital Stewards in Washington, D.C., issued a publication called the *Caduceus* which attempted to attract public sympathy and Congressional support for the plight of the military pharmacist.

As early as 1894 we find among the committes of the AMERICAN PHARMACEUTICAL ASSOCIATION, a "Special Committee on the Status of Pharmacists in the Army and Navy of the United States." In 1936, hospital pharmacists formed a subsection of the AMERICAN PHARMACEUTICAL ASSOCIATION'S Section on Practical Pharmacy and Dispensing. The interests of the hospital pharmacist were furthered with the aid of the entire profession, and the hospital pharmacists formed a separate association, the American Society of Hospital Pharmacists, closely affiliated with the AMERICAN PHARMACEUTICAL ASSOCIATION, in 1942.

2. 18TH CENTURY painting reproduces the busy scene in one of Italy's largest hospitals, with prescribing doctor in foreground, dispensing pharmacists in back.

3. CIVIL WAR "Hospital Steward" in the Union Army wore this uniform. His duties were those of a military hospital pharmacist. Courtesy of the Smithsonian.

4. LATE 19TH CENTURY photograph of Pennsylvania Hospital Pharmacy with pharmacist Joseph Yeager Taylor, Philadelphia College of Pharmacy, 1875.

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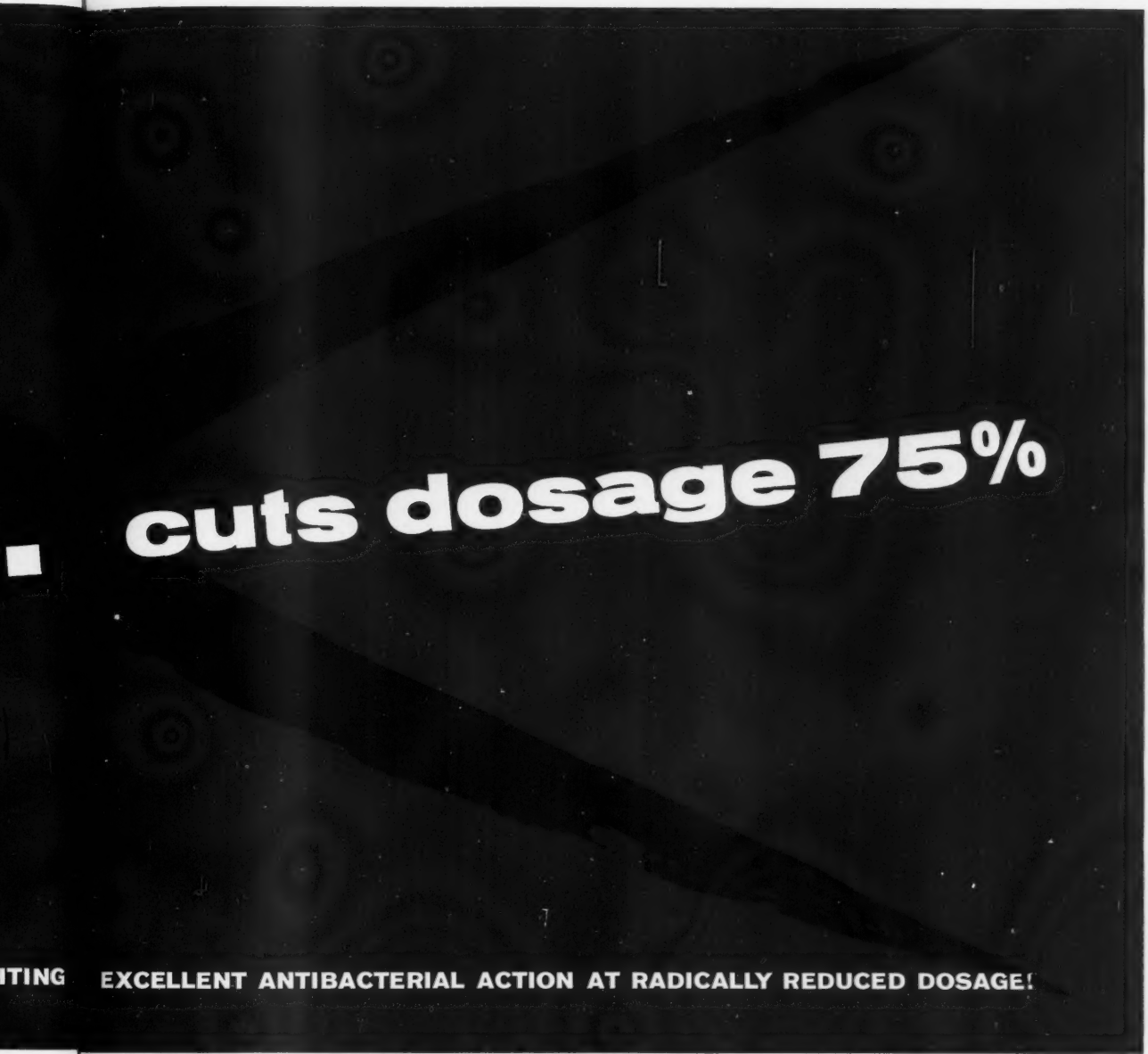

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FEDERAL & STATE ACTIONS

FDA ACTIONS

Of 7 lots of drugs and "health foods" seized for false curative claims or faulty composition by the FDA during January, one was actually honey whereas its label claimed, "It strengthens the heart, the liver, the pancreas, and all vital organs of the human system—a spoonful a day keeps the doctor away." Another was a vitamin and mineral formula which the promoter claimed was a cure for poliomyelitis, cancer, and tuberculosis.

Illegal Over-the-Counter Sales

Butte, Mont.—Selling barbiturate without physicians' prescription. Employee fined $200; sentence of 3 months' imprisonment suspended with probation for 1 year. Owner fined $1,000; sentence of 6 months' imprisonment suspended with probation for 1 year.

Omaha, Nebr.—Selling amphetamine without physicians' prescriptions. Fined $200, plus costs of $41.40.

Omaha, Nebr.—Selling amphetamine and barbiturates without physicians' prescriptions. Sentence of 6 months in prison suspended; placed on probation for 2 years.

Newark, N.J.—Selling amphetamine and barbiturates without prescription and refilling prescriptions without physicians' authorizations. Firm fined $300; and owner fined $600.

Newark, N.J.—Selling amphetamine and barbiturates without prescription and refilling prescriptions without physicians' authorizations. Fined $700.

Syracuse, N.Y.—Refilling prescriptions for sulfonamides without physicians' authorization. Owner fined $1,000, employee fined $900.

Syracuse, N.Y.—Refilling amphetamine prescription and barbiturate prescription without physicians' authorization. Two owners fined $900 and $750.

Union Gap, Wash.—Selling amphetamine without physicians' prescription. Fined $500.

Misbranded Drug

Detroit, Mich.—Diabetes herb tea, liver tonic, and blood tonic were misbranded with false and misleading claims; poultice did not bear mandatory labeling. Fined $500, placed on probation for 2 years.

FTC ACTIONS

Nutrition Enterprises—Lelord E. Kordel, Trading under the Name of Nutrition Enterprises, has been ordered to cease and desist from representing or implying that vitamins as usually purchased at retail establishments are stale or have lost their potency, that the vitamin preparation Super-nutriway is fresher or more nutritious than other vitamin preparations or products, and that all ingredients in the preparation Super-nutriway are nutritional elements.

Warsene Capsules, advertised as an effective treatment for the pains of arthritis and rheumatism, will do nothing more than give temporary relief from minor aches and pains, the FTC charged. It maintained, further, that the capsules are not the result of research conducted by or for the company, The Warson Products Corp., nor are they "made like a doctor's prescription."

Vitasafe Corp. has been charged by the Federal Trade Commission with advertising a deceptive "30-day free trial" offer in order to sell its vitamin capsules, "Vitasafe C. F. Capsules."

According to a Commission complaint, the company has advertised in newspapers, magazines, and other national promotional media a "generous trial" at no risk to the customer. "You don't risk a thing! All the cost and all the risk are ours!" the ad says. Persons taking advantage of this offer, the complaint says, are mailed additional monthly supplies and are billed for these shipments. Further, if they do not pay, the accounts are placed with a collection agency and attorney. In many instances shipments and billing continued after customers notified the company they no longer wished to receive the product. In addition, the complaint says, the original 30-day supply is not free since 25 cents must be remitted in order to receive it.

TREASURY ACTIONS

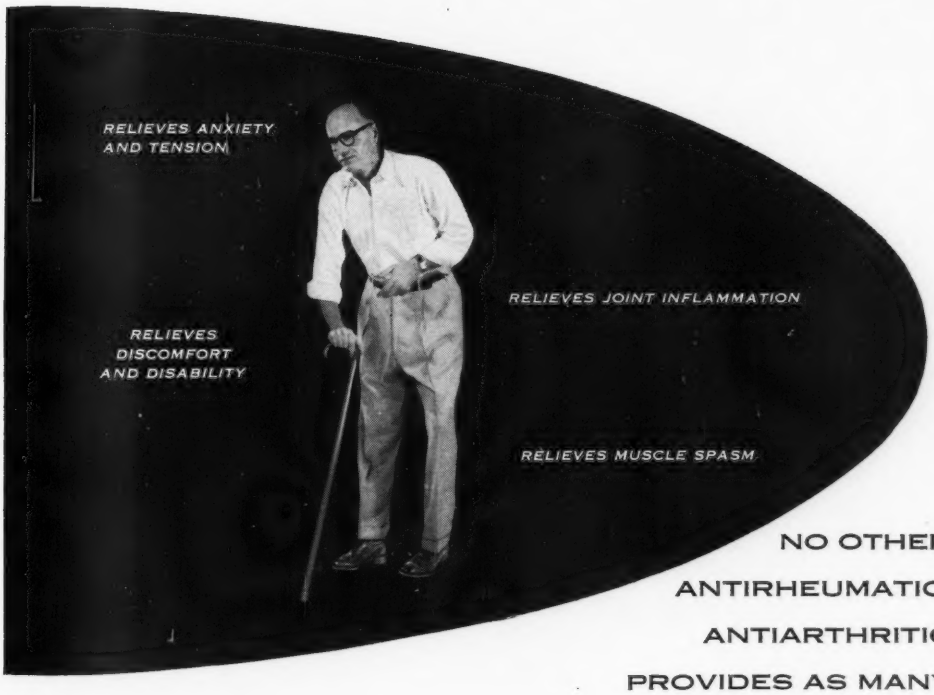
Denatured Alcohol Formulas—The *Federal Register,* **22,** 1329–1341, March 5, 1957, presents the newly revised formulas for denatured alcohol as officially recognized by the Internal Revenue Service, Department of the Treasury. Formulas and authorized uses for each are listed, but the Director, Alcohol and Tax Division, may authorize in his discretion the use of any formula of specially denatured alcohol for uses not specifically authorized in the regulations. See also *Fed. Reg.* **22,** 1587 (March 12, 1957).

Communicable Diseases Summary

THE number of cases of the communicable diseases shown in the table below are based on reports by Health Officers of each State and of Alaska, Hawaii, and Puerto Rico to the National Office of Vital Statistics of the Department of Health, Education, and Welfare, Washington, D.C. The number of cases of each disease occurring during each of the last 4 weeks are reported and also cumulative totals to date for 1957 and for the corresponding period of 1956, as well as the 1952–1956 median for this same period. The approximate seasonal low point for each of the diseases is shown in the last column.

Communicable Disease	Cases Reported for Week Ending				Cumulative Number			Low Point (Approximate Seasonal)
Selected Notifiable Disease	*Feb. 23, 1957*	*March 2, 1957*	*March 9, 1957*	*March 16, 1957*	*First 11 Weeks 1957*	*First 11 Weeks 1956*	*Median 1952–1956*	
Anthrax	2[a]	1[b]	1[b]	1[c]	7	7	7	[d]
Botulism	—	—	—	—	—	—	4	[d]
Brucellosis (undulant fever)	13	20	12	22	163	181	286	[d]
Diphtheria	15	23	13	22	228	463	474	July 1
Encephalitis, infectious	13	27	21	23	211	250	226	June 1
Hepatitis, infectious and serum	353	418	351	344	4,246	5,668	6,767	Sept. 1
Malaria	4	1	—	1	15	29	66	[d]
Measles	14,919	16,648	18,544	18,186	145,298	139,885	146,036	Sept. 1
Meningococcal infections	53	54	65	46	607	832	1,236	Sept. 1
Meningitis, other	38	51	32	41	365	346	— —	— —
Poliomyelitis	34	37	30	34	463	920	1,173	April 1
Paralytic	18	14	15	20	250	513	— —	April 1
Nonparalytic	13	14	12	7	133	236	— —	April 1
Unspecified	3	9	3	7	80	171	— —	April 1
Psittacosis	5	3	7	3	51	64	51	[d]
Rabies in man	—	—	16	—	—	3	2	[d]
Typhoid fever	10	27	—	15	221	263	273	April 1
Typhus fever, endemic	—	2	—	—	22	16	23	[d]

[a] Reported in N. H. [b] Reported in Pa. [c] Reported in Ariz. [d] Data show no pronounced seasonal change in incidence. Symbols: 1 dash (—), no cases reported; 2 dashes (— —), data not available.



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Dosage: 1 or 2 tablets 3 or 4 times daily.

Supplied: Multiple Compressed Tablets in bottles of 100 in two formulas as follows: 'MEPROLONE'-1—1.0 mg. of prednisolone, 200 mg. meprobamate and 200 mg. dried aluminum hydroxide gel. 'MEPROLONE'-2—provides 2.0 mg. of prednisolone in the same formula.

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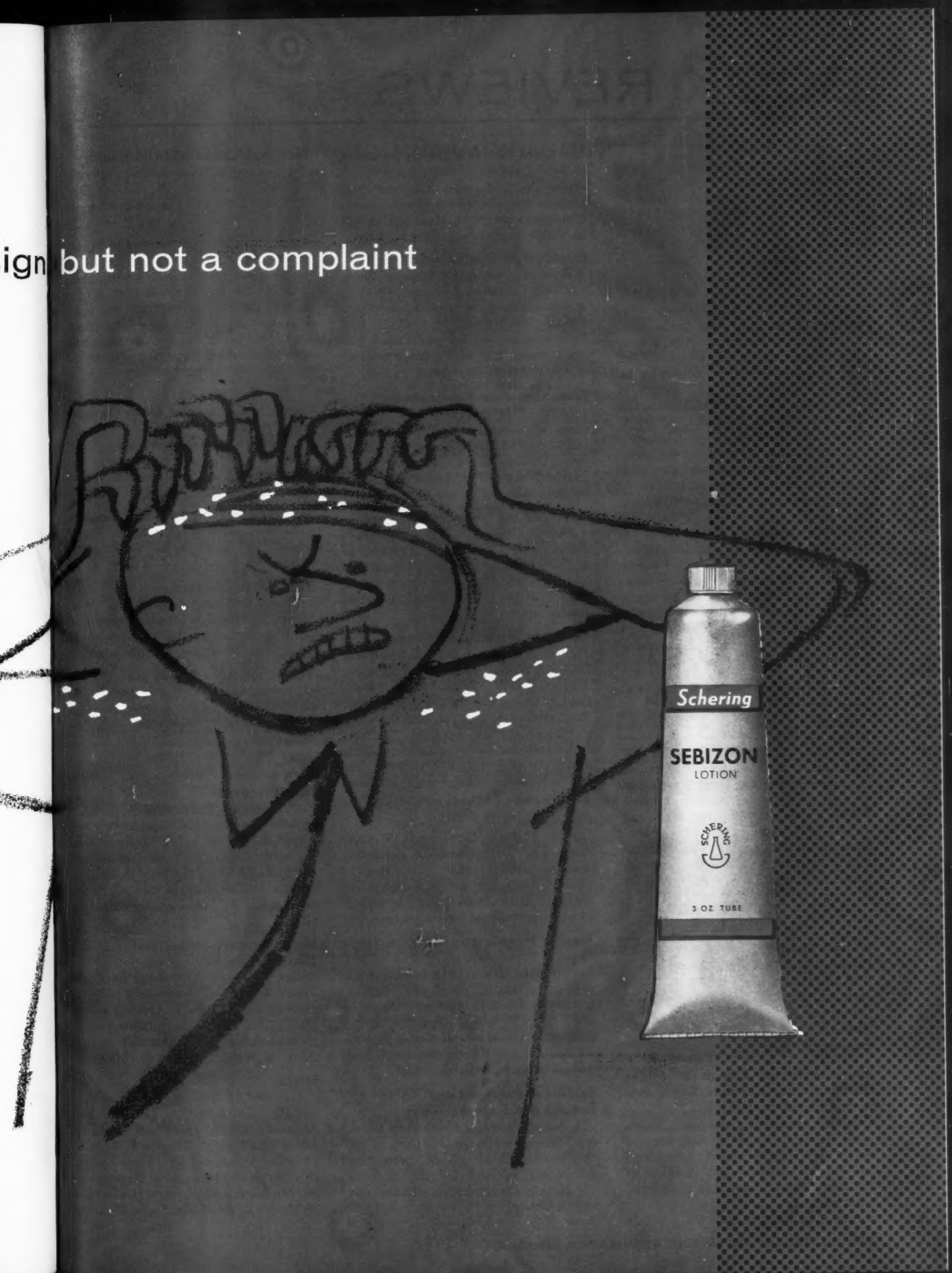


BOOK REVIEWS

Rauwolfia: Botany, Pharmacognosy, Chemistry and Pharmacology

By Robert E. Woodson, Jr., Heber W. Youngken, Emil Schlittler, and Jurg A. Schneider. Little, Brown and Company, Boston, 1957. xii + 149 pp. $5.50.

A useful compilation of material on one of the plant drugs that has renewed interest in plant sources of drugs and drug intermediates for synthesis. The text is divided into four parts, each the work of a specialist: The botany of *Rauwolfia*, by R. E. Woodson, Jr.; The Pharmacognosy of *Rauwolfia*, by H. W. Youngken; The Chemistry of *Rauwolfia* Alkaloids, E. Schlittler; The Pharmacology of *Rauwolfia*, by J. A. Schneider. The chapter on Chemistry is particularly interesting and complete. It indicates how rapidly investigators move from the stage of separation, to identification and structural elucidation, and finally to synthesis of naturally occurring compounds. The text is illustrated, many clear structural formulas are included, each chapter is documented with reference, and an index is appended. It is an excellent monograph and should be helpful and interesting to pharmaceutical chemists and to teachers and students in pharmacy and related fields.

Recent Progress in Hormone Research—Vol. 12

Gregory Pincus, ed. Academic Press, New York, 1956. 453 pp. $10.

The twelfth compilation of the proceedings of the Laurentian Hormone Conference, the 14 papers in this volume are grouped under four main headings: hormone biosynthesis and metabolism; hormones and metabolism; pituitary hormones; and sex hormones. An author and subject index is appended. This book is important for advanced workers in the field.

BOOKLETS

Atomic Energy Commission Unclassified Research Reports

Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C. List No. 26. Free. Lists more than 3,000 AEC reports acquired since January 1, 1956.

Bibliography of Bureau of Mines Health and Safety Publications, January 1947–June 1955

Superintendent of Documents, Washington 25, D.C. 50¢. Abstracts of nearly 300 technical reports on mineral and allied industries; also abstracts of 378 earlier publications now considered basic references.

The Child Who Is Mentally Retarded

Superintendent of Documents, Washington 25, D.C. 10¢ Practical suggestions and description of some of the community agencies and national groups to which parents may turn for help.

Employment Profile of Scientists

From the National Register of Scientific and Technical Personnel, 1954–55; a bulletin of the National Science Foundation, Washington 25, D.C. Free. Provides comprehensive information on employment and other characteristics of scientists.

Essentials of an Adequate Diet

Office of Information, U.S. Department of Agriculture, Washington 25, D.C. Booklet AIB 160. Single copies free. Divides foods into four basic groups from which homemaker can plan the foundation of an excellent diet.

FCDA Kit on Biological Warfare

Federal Civil Defense Administration, Battle Creek, Mich. Free. Precautionary measures for people, livestock and crops described in 4 film strips, sound records, 6 publications, and a special instruction leaflet.

Pictorial Calendar of Pharmacy

From Dr. George Urdang, American Institute of the History of Pharmacy, Madison 6, Wis. 36 pp. $1.75. Each page bears an illustration drawn from the cultural history of pharmacy, a short explanatory text in German, and a calendar with space for appointments covering a 10-day period. Edited in West Germany by the pharmacist-historian Wolfang Hagen Hein.

Piperazine

From Technical Service and Development, The Dow Chemical Company, Midland, Mich. Free. The properties, reactions, and use of a compound which is receiving increasing attention as a pharmaceutical intermediate.

State of Mind
Pulse & Pressure

Two new CIBA publications, each a 16-page monthly, began distribution to physicians this January. *State of Mind* reviews emotional and psychiatric problems. *Pulse & Pressure* reports on current views in hypertension and related cardiovascular disorders.

Studies of the Aged and Aging—Federal and State Activities

Volumes I and II. Government Printing Office, Washington 25, D.C. First two in a series of volumes presenting documents selected by the staff of the Senate Committee on Labor and Public Welfare.

Technical Cooperation in Health

International Cooperation Administration, Washington 25, D.C. Free. Gives results of the U.S. program in 41 countries.

Toxic Hazard of Pesticides to Man

Technical Report Series No. 114. World Health Organization, Geneva, Switzerland. 51 pp. 60¢. Report of the 20-man Study Group defining the most important aspects and suggesting means for a study of them. An appendix lists laboratories throughout the world investigating vertebrate toxicology of pesticides.

Traffic in Opium and Other Dangerous Drugs

Superintendent of Documents, Washington 25, D.C. 30¢. Treasury Department report for the year ended December 31, 1955.

U.S. Government Research Reports

Superintendent of Documents, Washington 25, D.C. $6 per year. A monthly listing.

Your Blood Pressure

From Local Heart Associations. Free. Basic facts on high blood pressure and need for doctor-patient cooperation during trial periods of new medicines.

Your Child from One to Six

Superintendent of Documents, Washington 25, D.C. 20¢. A new edition of the Government's best-seller series on child care.

FILMS

Let's Discuss It
Parliamentary Procedure

3-reel and 2-reel black and white films, respectively, produced by National Film Board of Canada, 630 Fifth Avenue, New York 20, N.Y. Portray group discussion methods and factors which encourage—and discourage—participation.

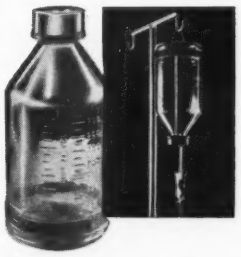
Nerve Gas Casualties and Their Treatment

Color, 30 min. Sponsored by E. R. Squibb & Sons in cooperation with the Federal Civil Defense Administration. First of its kind to be produced for a civilian audience, the film had its premiere in Washington, D.C., March 1.

Stress

Produced by National Film Board of Canada. Available from Text-Film Department, McGraw-Hill Book Company, 330 West 42 Street, New York 36, N.Y. 11 min. Presents Dr. Hans Selye, Director of the Institute of Experimental Medicine and Surgery, University of Montreal, and his concept of stress.

1.



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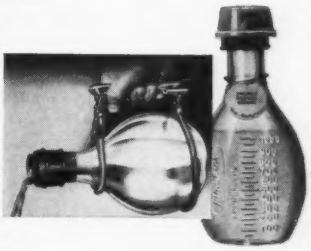

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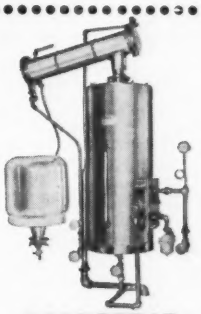

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MEMBERS

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

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Swank, Edgar P., Philadelphia

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Botzis, Elliott P., Charleston
Ducker, C. W., Charleston
Epstein, Alex, Charleston
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Kanellos, Lois, Charleston
Ligon, Bradrord V., Hollywood
Marcus, John B., Charleston
Meyers, Herman F., Charleston
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Seignious, John F., Jr., Charleston
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Mendez, Lumen M., Lares, P.R.

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Fernandez, Doris, Rio Piedras, P.R.
Lara Manning, Gustavo, Managua, Nicaragua
Lopez, Maria de los Angeles, Havana, Cuba
Montenegro, Fernando J. S., Recife-Pernambuco, Brazil
Saca, Jorge M., El Salvador, Central America
Silva, Penildon, Bahia, Brazil

Deceased

Frankowski, Mathew H., Whiting, Ind., Oct. 1, 1956
Hays, Helen K., Los Angeles, Calif.
Lukaszewski, Leon S., Detroit 13, Mich., Dec. 30, 1956
McRoberts, Frances G., Rochester, Minn.
Nolan, John W., Norwich, Conn., Jan. 22, 1957
Rivard, W. Henry, Providence, R. I., Feb. 5, 1957

Fannie R. Wasserman, 52, passed away in Philadelphia, Pa., on February 1, 1957. Graduating from the Philadelphia College of Pharmacy and Science in 1924, Miss Wasserman came to specialize in hospital pharmacy and was a founding member of the Philadelpha Hospital Pharmacists Association in 1938. She served as a subcommittee member to the U.S. Pharmacopeia Revision Committee in 1940, and was a member of the A.S.H.P. and A.Ph.A., among other professional affiliations, and was Director of Pharmacy Service at Kensington Hospital.

Coming Events

American Pharmaceutical Association Convention—April 28–May 3, Hotel Statler, New York City.

May Day—May 1. An ancient festival day among nature-worshippers.

Correct Posture Week—May 1–7. Sponsor: National Chiropractic Assn., National Bldg., Webster City, Ia.

National Foot Health Month—May 1–31. Sponsor: National Foot Health Council, Phoenix Bldg., Rockland, Mass.

United Cerebral Palsy Month—May 1–31. Sponsor: United Cerebral Palsy Assn., Inc., 369 Lexington Ave., New York 17, N.Y.

Proprietary Association of America—May 12–15, Greenbrier Hotel, White Sulphur Springs, W.Va.

Hospital Pharmacy Institute—May 25–28, Cleveland, Ohio. Sponsor: Catholic Hospital Association.

American Pharmaceutical Manufacturers' Association—May 27–29, Greenbrier Hotel, White Sulphur Springs, W.Va.

American Medical Association—June 3–7, New York City Coliseum.

10th International Hospital Congress—June 3–7, Lisbon, Portugal. Sponsor: International Hospital Federation.

42nd National Conference on Weights and Measures—June 3–7, Washington, D.C. Sponsor: National Bureau of Standards.

Dean Searles

Dr. Earl R. Serles, Dean of the University of Illinois College of Pharmacy and a Past President of the AMERICAN PHARMACEUTICAL ASSOCIATION, passed away on March 13 at his home in River Forest, Ill. Born in 1890, Dean Serles graduated from South Dakota State College's School of Pharmacy and earned his Ph.D. in pharmacology at the University of Minnesota. He taught at South Dakota State College and headed its Division of Pharmacy for 17 years. He was President, American Association of Colleges of Pharmacy, 1938–39.

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Members of the AMERICAN PHARMACEUTICAL ASSOCIATION are invited to submit their professional problems to The Editor of the PRACTICAL PHARMACY EDITION, 2215 Constitution Ave., N. W., Washington 7, D.C. Inquiries should include all pertinent details.

We Want to Help You

The A.Ph.A. in all its activities strives to help the pharmacist. This applies also to the Prescription Practice department of THE JOURNAL. You can help us help you by ascertaining and presenting checked factual background material with your requests for assistance. Don't be like our caller in the following telephone conversation.

Pharmacist (Ph): Hello, can you help us locate some items we can't find?

Prescription Practice Editor (E): We'll try.

Ph: We have been asked for Premycin 250-mg. tablets; Amminochol silver nitrate No. 1 Howe, Formulan solution No. 1 Howe; and Soneryl.

E: Do you have the requests in writing?

Ph: No. I got them by phone.

E: Did you check the spelling on each item?

Ph: Yes, twice.

E: Could the premycin possibly be Panmycin 250 mg.?

Ph: Not from what we got.

E: We will see what can be found and let you know.

(Lapse of one hour for intensive search.)

E: The nearest thing to premycin we can find is a report on an antibiotic named primycin in the British Journal *Nature*, and . . .

Ph: Wait a minute. I checked that again and they want Panmycin 250 mg. What about the other items?

E: Soneryl is another name for Butethal N.F. X which is available as Neonal (Abbott). The amminochol . . .

Ph: Hold up. That should have been ammonichol instead of amminochol.

E: You can spell it ammino or ammonichol but what they want is probably Ammoniacal Silver Nitrate, Howe, N.F. This is used in dental work and the No. 1 part is ammoniacal silver nitrate solution which is mixed with a reducing agent (No. 2) such as formaldehyde (1 in 10). The requested Formulan solution No. 1 Howe is probably the diluted formalin solution in the Howe combination.

Ph: Thanks a lot; you've been very helpful.

E: You're welcome; goodbye.

Alcohol in Prescriptions

Can the following prescriptions be filled in a pharmacy without purchasing a liquor license?—R. B. B., Georgia.

Prescription No. 1

Alcohol ½ *oz.*
Sig.: 2 drops in ear q.i.d.

Prescription No. 2

Zinc sulfate . . . . . 2 *gr.*
Ethyl alcohol . . . . . 20 *min.*
Other ingredients q.s.
Sig.: Apply Ut dict.

An authoritative opinion [see THIS JOURNAL, **16,** 78(1955)] included the following: "Druggists are not authorized to bottle alcohol for sale on physicians' prescriptions. Ethyl alcohol must be sold in the container in which purchased." The opinion would appear to rule out the filling of prescription No. 1. It might be debatable whether the pharmacist may purchase a pint of alcohol from a liquor dealer and use this as his stock for filling prescriptions. This would depend upon the interpretation of the individual state drug commissioner or Board of Pharmacy. Having obtained a legitimate stock of alcohol, the pharmacist could dispense prescription No. 2.

Cortisone Acetate Ophthalmic Suspension

How can a prescription for extemporaneous cortisone acetate ophthalmic suspension be compounded?—B. K., Virginia.

A suspension of cortisone acetate for ophthalmic use can be prepared by the procedure reported by Flitcroft and Birchall [*Pharm. J.*, **178,** 79(Feb. 2, 1957)] for the following formula:

Cortisone acetate	1.00
Unemul	1.00
Benzalkonium chloride	0.02
Methylcellulose	0.50
Sodium chloride	0.75
Distilled water *q.s. ad*	100.00

Triturate the finely ground cortisone acetate powder with the Unemul (a gelatinous hydrated aluminum oxide with average particle size 3–7μ marketed by Universal Emulsions Ltd., Invicta Works, East Malling, Kent, England) to a smooth paste, add the methylcellulose (from a stock paste), the NaCl (in solution), and make up to volume with the water in which the benzalkonium chloride is dissolved.

Ergotin and Ergonovine

How would one stabilize a solution containing ergotin, calcium chloride, syrup and water?—E. B., Turkey.

Ergotin is a term applied to a variety of pharmaceutical products and therefore the unstable constituents would be unpredictable. Ergotin-type preparations have been largely replaced in use in the United States by ergonovine maleate when the oxytocic action of ergot is desired.

Hibitane Cream

What is Hibitane and who makes it?—V. C. T., California.

Hibitane is the trade name for an antiseptic hand cream containing 1% of 1,6-di-4′-chlorophenyldiguanidohexane. It is marketed by Imperial Chemical (Pharmaceuticals) Ltd., England. It is not generally available in the U.S. A report on its clinical use in dermatology appeared in *Brit. Med. J.*, **1,** 81(Jan. 8, 1955).

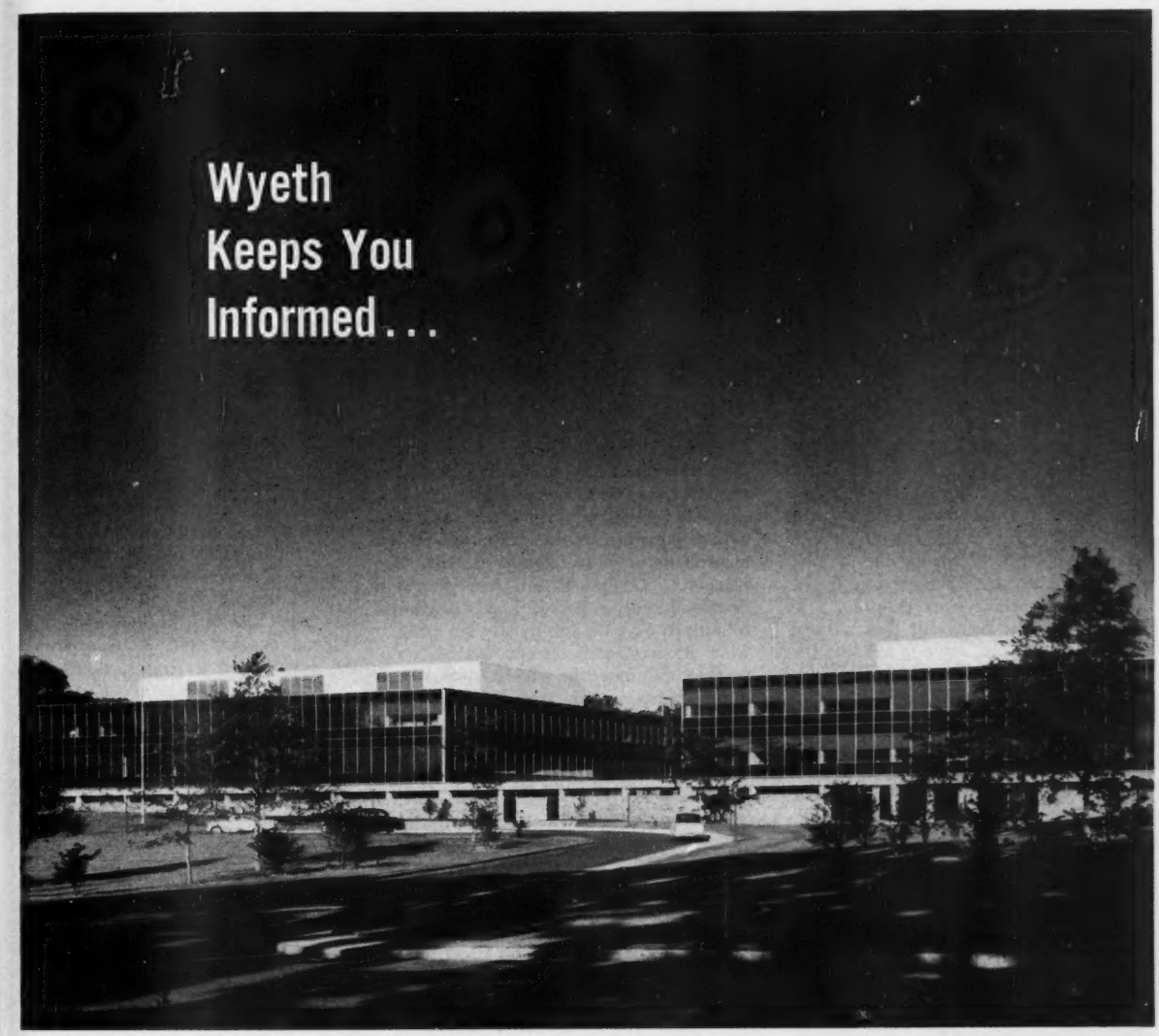
Newer Laxatives (?)

Can you give us some general information on recent laxatives, such as Aerosol OT?—C. A. R., New Jersey.

Aerosol OT, medicinal grade, is dioctyl sodium sulfosuccinate U.S.P. It remained in U.S.P. XV as an oversight when the formula for calamine lotion that contained it as a wetting agent was dropped after having been included in the page proof of that revision [see THIS JOURNAL, **16,** 531 (1955)]. The compound is now marketed for use in correcting constipation, but only as a softener of fecal matter in the intestines and not as a laxative. It is marketed also in combinations containing a laxative ingredient, such as danthron N.F.

Danthron was admitted into N.F. X as a cathartic for veterinary use. Further studies showed that dosage adjustment permitted its safe use as a laxative and cathartic in humans.

In addition to plant gums and hemicelluloses, the newer bulk laxatives include methylcellulose and sodium carboxymethylcellulose with and without other substances.



Few professions depend so wholly on concrete evidence of specialized knowledge as hospital pharmacy. You are a specialist. Your training, your work, your understanding of therapeutic agents are vital to your hospital and add immeasurably to the performance of all its professions. But more than a specialist, you are an agent of education. Physicians and other members of the hospital community look to you for your knowledge of drug research and its increasing harvest of therapeutic specifics. This is why Wyeth Laboratories puts a high premium on keeping you informed of its pharmaceutical advances.

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PROGRESS in MEDICINE

Indications for Polio Vaccination

Immunity to polio comes about naturally and early in life in some unvaccinated populations. In others high susceptibility prevails in all age groups so that severe epidemics involve children, parents, and grandparents. In the U.S. differences exist between states and even within cities, and in general the people in the poorest urban areas become immune early in life. In his discussion Dr. John R. Paul, *J. Am. Med. Assoc.*, **162,** 1585(Dec. 29, 1956), raises the question whether vaccination with the killed virus antigen will prepare young people for situations like the risk young parents face when exposed to the infection by their own children. He states that if it turns out that natural infection will be of value in keeping the vaccinee's immunity in repair, the question arises as to whether this matter of reinfection should be left to pure chance or whether the work on live attenuated virus vaccination might enter the picture, as an adjunct to the use of a killed vaccine. The final technique of immunization against poliomyelitis has probably not been evolved. In its selection correlative observations might well be made with the methods being employed in the United States and elsewhere, both with killed and with attenuated vaccines. In any event, however, in 1956, not only is the prospect hopeful but there is every reason to believe that an invaluable start has been made.

Live-Virus Polio Vaccine—Present Status

In his report on the present status of attenuated live-virus polio vaccine, Dr. Albert B. Sabin, *J. Am. Med. Assoc.*, **162,** 1589(Dec. 29, 1956), notes that it has been established that immunization of humans by the oral route has been successful. Because attenuated strains of polio virus varied greatly in their neurotropism for the most sensitive lower motor neurons as well as in their homogeneity, the crucial problem was to find strains that were so highly attenuated and homogeneous that one would be justified in using them in increasingly larger numbers of humans in those stepwise tests that must precede any trial of such a vaccine on a large scale. The finding of such strains after tests on the progeny of large numbers of individual virus particles is described by Dr. Sabin. The oral vaccine is not ready for mass trials.

Meprobamate Effectiveness

In a clinical trial on 151 psychiatric out-patients, meprobamate (Equanil) produced some relief of symptoms in 58% of patients with chronic anxiety and tension states. The drug was not as effective when anxiety and agitation were severe. Dosage usually was 400 mg. orally three times a day, with another 400 mg. at night if insomnia was a problem. When increased to a maximum of 2 Gm. a day, side effects usually appeared without better therapeutic action. Statistically significant therapeutic superiority was exhibited by meprobamate when compared with a placebo. Compared in a separate double blind trial with amobarbital sodium in 51 patients, mostly suffering from anxiety and tension states, no marked difference in effectiveness was noted between the two drugs; but meprobamate seemed more useful then a barbiturate where irritability was a marked feature. No serious side effects were noted, but transient skin rashes occurred in 2.5% of the cases. The trial results are reported by E. D. West and A. Fernandes da Fonseca, *Brit. Med. J.*, 1206(Nov. 24, 1956).

Respiratory Diseases Vaccine

An optimistic report on the present status and future possibilities of control of virus-caused respiratory diseases is given editorially in *J. Am. Med. Assoc.*, **163,** 40(Jan. 5, 1957). Viruses causing non-feverish, grippe-like illness, which do not include the common cold, formerly were named AD for "adenoid degeneration" or APC for "adenoidal-pharyngeal-conjunctival," but are now generally called adenoviruses. At least 14 types of adenoviruses have been identified. Types 1, 2, and 5 are frequently associated with feverish respiratory infections in young children. Type 3 causes pharyngoconjunctival fever, which is seen most frequently in children. Types 4 and 7 cause much of the acute respiratory disease and primary atypical pneumonia in adults, and types 6 and 10 cause conjunctivitis. It is noted that the early hopes that all respiratory diseases of unknown origin could be attributed to the newly recognized viruses have not materialized.

Two articles in the same issue of *J. Am. Med. Assoc.* report on a vaccine to combat infections caused by types 4 and 7 adenoviruses. Preparation of the vaccine is described by M. R. Hilleman, M. S. Warfield, S. Anderson, and J. H. Werner, who obtained viruses from patients' throat washings, grew them in monkey kidney tissue and then killed the virus by incubation with formalin. Tests of the vaccine in 600 serviceman at Fort Dix, N.J., are reported by R. A. Stallones, R. L. Gauld, M. R. Hilleman, M. S. Warfield, and S. Anderson. The vaccine caused no side effects and was effective beginning one week after the initial injection. A marked reduction was noted in the number of illnesses requiring hospitalization during the second through the fifth weeks after vaccination, and the vaccinated men were free of the disease after the fifth week. The number of persons with mild attacks of illness also appeared to be reduced. It was noted also that antibodies were developed against type 3 adenovirus to the same extent as against types 4 and 7, of which the vaccine was made The one-shot vaccine is considered potentially valuable in military populations with their high rate of respiratory illnesses. The duration of protection is not known, and the value of the vaccine among civilian populations remains to be determined.

Tobacco Chewing Affects Circulation and Heart

The effects of chewing 10 Gm. of tobacco (commercial 1.53% nicotine and low-nicotine tobacco 0.31–0.47%) were observed in 24 habitual chewers (males, 34 to 71 years old) and reported by Dr. D. L. Simon, *et al*, *J. Am. Med. Assoc.*, **163,** 354(Feb. 2, 1957). After chewing commercial tobacco, 1 out of 15 men showed an unchanged pulse rate while 14 showed increases of 1 to 24 beats per minute with an average increase of 13.4 beats per minute. With low-nicotine tobacco the pulse rate remained constant in 3 subjects, decreased in 1, and increased in 9 (range of increase: 2 to 10, average 6.5 beats per minute). With chewing gum (placebo) 1 subject showed a slight rise and 1 showed a slight fall in pulse rate. Tobacco chewing produced increases in blood pressure in all of the 16 tested subjects: range of rise in systolic pressure was 10 to 45 mm. Hg (av. 17.9) and in diastolic pressure it was 5 to 20 mm. Hg (av. 11.8). Chewing gum produced no rise in 1 tested subject who had a rise of 15/15 mm. Hg after chewing commercial tobacco. Other effects were a decrease in skin temperature and a deterioration of the ballistocardiogram. The changes are attributed to the nicotine absorbed during the chewing.

NEW PRESCRIPTION PRODUCTS

All actively promoted items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages will have full information before products are detailed to the physician. For inclusion in this department, for which there is no charge, send descriptive literature to the Editor, New Prescription Products Department, JOURNAL of the AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, N. W., Washington 8, D. C.

Antivert Tablets

Description: Each blue and white layered, elliptical, scored tablet contains meclizine HCl, 12.5 mg., and nicotinic acid, 50 mg.

Indications: Treatment of Meniere's syndrome, labyrinthitis, tinnitus, postoperative vertigo and postradiation vertigo.

Administration: One tablet 3 times daily before meals.

Form Supplied: Bottles of 100.

Source: J. B. Roerig and Co., Chicago, Ill.

Bendectin Tablets

Description: Each white coated tablet contains: Bentyl (dicyclomine) HCl, 10 mg.; Decapryn (doxylamine) succinate, 10 mg.; and pyridoxine HCl, 10 mg.

Indications: For treatment and prevention of nausea and vomiting in pregnancy.

Administration: Two tablets at bedtime. In severe cases, 1 tablet on arising and 1 in mid-afternoon. The tablet coating permits release of the medication 4 to 6 hours after ingestion.

Form Supplied: Bottles of 100.

Source: The Wm. S. Merrell Co., Cincinnati, Ohio.

Celontin Kapseals

Description: Each yellow, orange banded capsule contains 300 mg. methsuximide.

Indications: Anticonvulsant for treatment of petit mal and psychomotor attacks in patients with epilepsy.

Administration: One to 4 Kapseals daily.

Form Supplied: Bottles of 100.

Source: Parke, Davis & Co., Detroit, Mich.

Gitaligin Tablets, Injection, Drops

Description: Amorphous gitalin N.N.R. in the form of scored tablets, 0.5 mg. in each; injection (i.v.), 0.5 mg. per cc. in alcohol 10% and propylene glycol 40%; drops, 0.05 mg. in each 2 cc.

Indications: For digitalization and maintenance under different conditions.

Administration: Tablets, rapid method, initially 2.5 mg. then 0.75 mg. every 6 hours (usually 6 mg. in 24 hours); slow method, 1.5 mg. daily for 4 to 6 days. Injection, for adults with congestive heart failure, 2 or 3 doses of 2.5 mg. each at intervals of 12 to 24 hours (5 or 6 mg. for full digitalization); maintenance, i.v., 2.5 mg. twice weekly or 0.5 mg. daily. Drops, for digitalization of children, 0.5 mg. for each 10 lbs. of body weight (for 40 lb. child, 2 mg.; 1 mg. initially, then 2 doses of 0.5 mg. 6 hours apart); maintenance, $^1/_{10}$ to $^1/_5$ the digitalizing dose. Adults, initially 3 mg., then 2 doses of 2.5 mg. each 6 to 12 hours apart; maintenance, 0.5 mg. daily.

Form Supplied: Tablets, bottles of 30 and 100. Injection, 5-cc. ampuls in packages of 3 and 12. Drops, bottle of 30 cc.

Source: White Laboratories, Inc., Kenilworth, N.J.

Ketonil Powder

Description: A powder containing casein hydrolysate (modified to contain certain amino acids) 74% and a mixture of mineral salts with choline chloride 26%. (The amino acid phenylalanine is absent.)

Indications: For treatment of phenylketonuria due to inability of the body to metabolize or utilize phenylalanine. Particularly recommended in pediatrics.

Administration: Individually adjusted by the physician.

Form Supplied: 1-lb. bottles.

Source: Merck Sharp & Dohme, Philadelphia, Pa.

Kynex Tablets

Description: Each pink, quarter-scored, imprinted tablet contains 500 mg. sulfamethoxypyridazine.

Indications: Treatment of genitourinary infections caused by organisms sensitive to sulfa drugs.

Administration: Orally, 4 tablets first day and one tablet twice daily thereafter.

Form Supplied: Bottles of 24 and 100.

Source: Lederle Laboratories, Pearl River, N.Y.

Maxukal Injection

Description: A solution containing 53.4% calcium kinate gluconate, equivalent to 50 mg. Ca per cc.

Indications: In the treatment of hypocalcemic tetany resulting from interference with calcium metabolism; in allergic disorders; in relieving pain from muscle spasm due to lead and renal colic; with vitamin E in preventing occurrence of postoperative thromboembolic episodes; for elective induction of labor; and in oozing hemorrhagic conditions.

Administration: One to 2 cc. by slow i.v. injection only.

Form Supplied: 2-cc. ampuls in boxes of 25.

Source: George A. Breon & Co., New York, N.Y.

Nugestoral Tablets

Description: Each tablet contains: ethisterone (Progestoral), 15 mg.; hesperidin complex, 175 mg.; ascorbic acid, 175 mg.; sodium menadiol diphosphate (vitamin K analogue), 2 mg.; *dl*-alpha tocopherol acetate, 3.5 mg.

Indications: To preserve pregnancy in the abortion-prone patient.

Administration: Three tablets daily started as soon as pregnancy is established and continued throughout gestation.

Form Supplied: Boxes of 30 stripped tablets.

Source: Organon Inc., Orange, N.J.

Prednefrin Ophthalmic Suspension

Description: A suspension containing: prednisolone acetate 0.12, phenylephrine HCl 0.12, chlorobutanol 0.5, sodium bisulfite 0.06, methylcellulose 0.12, sodium borate 0.05, sodium citrate 0.1, urea 0.05, and aromatics 0.01% in Ringer's solution.

Indications: For treatment of ophthalmic inflammations. Contraindicated in herpes simplex.

Administration: One or 2 drops 2 to 4 times a day. Response is in 1 to 2 days with freedom from symptoms in 5 to 7 days.

Form Supplied: 5-cc. Drop Top bottles.

Source: Allergan Corporation, Los Angeles, Calif.

Rabies Vaccine, Dried Killed Virus (Duck Embryo)

Description: A vial containing 1 dose of dried rabies vaccine for suspension. On dilution it is equivalent to a 10% suspension of beta-propiolactone killed virus (duck embryo tissue infected with fixed virus) with 1:10,000 thimerosal as preservative.

Indications: For the prevention of rabies in exposed subjects.

Administration: One subcutaneous dose daily for 14 days.

Form Supplied: Seven doses in individual vials with 7 ampuls of diluent in each package. Two packages in a carton.

Source: Eli Lilly and Co., Indianapolis, Ind.

Sumycin Capsules

Description: Each capsule contains tetracycline phosphate complex equivalent to 250 mg. of tetracycline HCl.

Indications: For faster and higher initial tetracycline blood levels in the treatment of many bacterial infections.

Administration: One capsule four times a day.

Form Supplied: Bottles of 16 and 100 capsules.

Source: E. R. Squibb & Sons, New York, N.Y.

Tral Filmtab
Tral w/Phenobarbital Filmtab

Description: Each Tral 25 tablet contains 25 mg. hexocyclium methylsulfate. Each Tral w PB tablet contains 25 mg. Tral with 15 mg. phenobarbital.

Indications: Anticholinergic in management of peptic ulcer and gastrointestinal disorders associated with hyperacidity and hypermotility, and certain intestinal spastic conditions. Contraindicated in glaucoma, serious cardiac disease, or prostatic hypertrophy.

Administration: Orally, 1 Tral tablet 4 times daily, before meals and at bed time.

Form Supplied: Tral and Tral w PB, bottles of 100 Filmtabs.

Source: Abbott Laboratories, North Chicago, Ill.

Trilafon Tablets

Description: Tablets containing 2 mg., 4 mg., 8 mg., or 16 mg. of Trilafon (perphenazine).

Indications: For treatment of mild, moderate, and severe mental and emotional disturbances, and in management of nausea and vomiting due to pregnancy or other causes.

Administration: Individualized dosage under supervision of physician.

Form Supplied: The 2-mg., 4-mg., and 8-mg. tablets in bottles of 50 and 500. The 16-mg. tablets (designed for hospital use) in bottles of 500.

Source: Schering Corporation, Bloomfield, N.J.

Other New Products

(Including chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy.)

Abdol with Minerals Capsules for Children

An adjusted combination of vitamins and minerals, intended for use in prophylaxis and treatment of multiple vitamin and certain mineral deficiencies, is marketed by *Parke, Davis & Co.* for use in pediatrics. Dosage, 1 capsule daily. Supplied in bottles of 100.

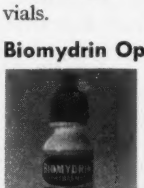
Albamycin Capsules—New Package

The Upjohn Company has made their capsules of Albamycin (novobiocin) sodium, 250 mg., available in bottles of 100 in addition to the bottles of 16 capsules.

Anti-A_1 Lectin, Purified

Hyland Laboratories has marketed a fractionated extract of *Dolichos biflorus* seed as a clear, stable, and specific agent for rapid and clear-cut agglutination of A_1 and A_1B human blood specimens for A_1 and A_1B subgroup determinations. Supplied in 2-cc. dropper vials.

Biomydrin Ophthalmic Solution



An ophthalmic solution containing neomycin sulfate 0.1%, gramicidin 0.005%, thonzylamine HCl 0.125%, boric acid 1.2%, phenylephrine HCl 0.125%, with thimerosal 0.002% and methylcellulose, is marketed by *Nepera Chemical Co.* for use in allergies and external ocular infections. Dosage, 1 or 2 drops in each affected eye 3 or 4 times daily. Supplied in 10-cc. Dropamatic plastic bottle.

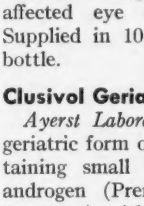
Clusivol Geriatric Capsules

Ayerst Laboratories has marketed a geriatric form of Clusivol capsules containing small doses of estrogen and androgen (Premarin and methyltestosterone) with vitamins and minerals and two amino acids. Clusivol geriatric capsules are supplied in bottles of 100 and 1,000.

Copain w/Codeine Tablets

Tablets containing, in each, codeine phosphate, 1 mg.; salicylamide, 5 gr.; phenacetin, 2.5 gr.; and caffeine, 0.5 gr., are marketed by *Bryant Pharmaceutical Corp.* as an analgesic. Supplied in vials of 36 tablets.

Corplex Tablets



Yellow coated tablets containing, in each, lemon bioflavonoid complex, 100 mg., and ascorbic acid, 100 mg., are marketed by *Chicago Pharmacal Co.* for use in disorders complicated by impaired capillary function. Dosage, 2 tablets 4 times a day for 1 week, then 1 tablet 4 times daily. Supplied in bottles of 100 and 1,000.

Noscapine for Narcotine

The New York Quinine & Chemical Works is now using "noscapine" instead of "narcotine" to designate the nonaddictive antitussive compound.

Ozium Spray

An aerosol spray containing propylene and triethylene glycols for removing smoke and odor and reducing airborne microorganisms is marketed by *Woodlets Inc.* in a hand-size 500-spray container.

Robane for Topical Formulations

Robeco Chemicals, Inc., has marketed hydrogenated squalene, $C_{30}H_{62}$, a saturated hydrocarbon of animal derivation known as perhydrosqualene, squalane, and hexamethyltetracosane. The stable liquid is claimed to aid percutaneous absorption of medicinals due to miscibility induced by the squalane in the formulation and the squalene in the sebum of the skin.

Sigmamycin Capsules 100 mg.

The combination of oleandomycin and tetracycline in 1:2 ratio, respectively, has been marketed by *Pfizer Laboratories* in 100-mg. capsules. Capsules containing 250 mg. of the combination (Sigmamycin) also are available. The 100-mg. capsules are supplied in bottles of 25 and 100.

Therabex Captabs

Red, oblong captabs containing, in each: vitamin A, 33,000 u.; D, 1,500 u.; B_1, 20 mg.; B_2, 10 mg.; B_6, 1 mg.; C, 150 mg.; niacinamide, 150 mg.; cobalamin, 10 mcg.; and folic acid, 1 mg., are marketed by *Bryant Pharmaceutical Corp.* for use in cases requiring intensive multivitamin therapy. Supplied in bottles of 100 and 1,000.

Twinminn Tablets

Scored tablets, containing in each: mephenesin, 260 mg; bromisovalum, 162 mg.; urea, 65 mg., in a slow disintegrating base, are marketed by *C. R. Canfield & Co.* for relief of tension. Dosage, 1 tablet 3 times a day, with an additional tablet, if indicated, an hour before retiring. Supplied in bottles of 100, 500, and 1,000.

ViDaylin-T Liquid

A citrus-flavored liquid containing, in each 5 cc.: vitamin A, 1.5 mg.; D, 20 mcg.; thiamine HCl, 3 mg.; riboflavin, 3 mg.; ascorbic acid, 75 mg.; nicotinamide, 20 mg.; B_{12}, 3 mcg.; pyridoxine HCl 1 mg., is marketed by *Abbott Laboratories* as a therapeutic nutritional supplement for adults and growing children. Dosage, 1 teaspoonful (5 cc.) daily. Supplied in 3-oz., 8-oz. and pint bottles. ViDaylin-T replaces Dayamin liquid on the market.

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